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K-12 SCHOOLS: THE EFFECT OF PUBLIC SCHOOL CHOICES ON MARINE FAMILIES' CO-LOCATION DECISIONS

by

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This thesis examines geographic bachelorhood among Marines assigned to various bases and the role of school quality on the decision to pursue geographic bachelorhood. In particular, it estimates the effect of having school-age children on the probability of geographic bachelorhood when Marines are assigned to Jacksonville, North Carolina; Albany, Georgia; Twentynine Palms, California; and Hawaii—areas perceived as having under-performing K-12 schools. The thesis further analyzes the effects of having school-age children on whether Marines establish households within the school district boundaries of these locations.

Employing logit regression analysis and using data from the Total Forces Data Warehouse, I find that Marines with school-age children exhibit higher odds of choosing to be geographic bachelors in all locations studied; however, Marines with school-age children assigned to Albany exhibit the greatest odds of choosing geographic bachelorhood. These findings hold even controlling for demographic characteristics such as years of service and ethnicity. There is also variation in the likelihood of geographic bachelorhood by school age–specific factors; having secondary school-age children is most highly associated with geographic bachelorhood relative to primary and middle school–age children. I recommend conducting similar analyses with additional variables gathered through surveys, as well as within-state comparisons for each location and analyses that include other bases for comparison.

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LIST OF ACRONYMS AND ABBREVIATIONS

DDESS	Domestic Dependent Elementary and Secondary Schools
DOD	Department of Defense
DODS	Department of Defense Dependent Schools
Geo-bachelor	Geographic Bachelor
MCBH	Marine Corps Base Hawaii
MCCS	Marine Corps Community Services
NCES	National Center for Education Statistics
TFDW	Total Forces Data Warehouse

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I. INTRODUCTION

According to a 2015 survey conducted by school liaisons for the Marine and Family Programs office of Headquarters Marine Corps, four Marine Corps bases are perceived to have poor education opportunities for dependent children. The locations of these bases are Jacksonville, North Carolina; Albany, Georgia; Twentynine Palms, California; and Honolulu (Kaneohe Bay), Hawaii. This thesis attempts to identify if the perceived school quality near these installations has an impact on a family's decision to live apart from one another; it explores the role of education opportunities on family relocation choices.

A. BACKGROUND

The Marine Corps' school liaison field receives informal feedback from the military families they serve on a regular basis. According to the results of a 2015 School Liaison Program survey, the main factors that influence a family's relocation decisions are quality of education and proximity to the installation. As indicated previously, this survey also reveals that four specific installations are perceived to have lower-quality education programs. Several families indicate that they were reluctant to move to these locations due to the reputed underperformance of the areas' schools. When families choose to reside separately, the dependents remain in place while the Marine executes his/her orders unaccompanied; they are then considered to be geographical bachelors, or "geo-bachelors."

The Department of Defense (DOD) has multiple programs dedicated to the education of military children. They operate schools in nine U.S. states (including Guam and Puerto Rico) and provide subsidies to other areas that serve a large population of military children. Of the four locations previously identified, only one of them (Jacksonville, North Carolina) offers on-base DOD schooling. In the Jacksonville area, there are actually seven DOD schools that serve students who reside on-base. Of these seven schools, one is a high school, one is a middle school, and the remaining five are

elementary schools. For dependents who reside off-base and for those who are assigned to areas without DOD schools, the local public school system is available for enrollment.

Jacksonville families that reside off-base attend Onslow County schools. Onslow County offers 21 elementary/primary schools, eight middle schools, and seven high/secondary schools. Families assigned to Albany, Georgia attend schools within Dougherty, Worth, and Lee Counties. Among these counties are 22 primary/elementary schools, eight middle schools, and seven high schools. In Twentynine Palms, California, families fall within the Morongo Unified School District. This school district has 11 primary/elementary schools, two middle schools, and three high schools. For those assigned to Marine Corps Base Hawaii, most children attend schools in the Honolulu district. Honolulu offers 37 primary/elementary schools, 10 middle schools, and seven high schools.

In general, a military family's school decision, regardless of installation assignment, may be categorized into four main choices: reside separately from the service member in order to remain in a school district of choice, pay tuition and enroll in a good-quality private school at the new location, homeschool the child/children, or enroll in the new installation's public school system. Each of these choices comes at a cost which changes based on location. For instance, if the local public schools are considered to be of high quality, the cost associated with enrolling in that school is low; if they are considered poor quality, the cost is high.

An abundance of research regrading school choice and school quality exists, but no reports or papers strictly concerning school choice and the Marine Corps have been identified in the literature. General arguments about choice theory and what constitutes a good quality school are the building blocks used in this thesis.

B. IMPORTANCE

As an all-volunteer force, the military is constantly researching ways to recruit high-quality personnel and increase retention. One factor that greatly impacts Marines' retention decisions is their quality of life. Quality of life for service members and their families is a great consideration as its effects can range from general health and well-

being to retention. Awareness of quality of life impacts has grown dramatically in the past decade, resulting in an increase of services offered to military members as well as their families. It is important to understand that each installation's needs are different and proper evaluation of what those needs are is necessary in order to appropriately allocate available resources.

Marine Corps Community Services (MCCS) is available to support Marines and their families through various programs. The categories of services/programs that MCCS provides are: activities, fitness, benefits, career, lodging, recreation, relationships, retail, dining, education, support, and family (which includes school liaison) (MCCS Forward, n.d.). In Marine Corps Order 5400.54 of 19 Apr 2013, all Installation Commanders are ordered to "champion the appropriate allocation of all available resources to support the MCCS program across the entire enterprise" (p. 2, Enclosure 2). Therefore, the commanders must be made aware of quality of life issues in order to understand what the needs are within the community.

C. SCOPE

This thesis addresses two research questions, the first being: Of those assigned to bases with a reputation for low-quality public K-12 schools, how likely is it that Marines with school-age children choose to become geo-bachelors? The second research question is: To what extent does surrounding school quality affect Marines' choices to live within the school district boundaries of Jacksonville, Albany, Twentynine Palms, and Marine Corps Base Hawaii (MCBH)? Considering these questions, the scope of this thesis is restricted to active duty Marines who have been assigned to any of these four locations between October, 2011 and September, 2016.

D. SUMMARY OF FINDINGS

To answer the first research question, logit regression models are estimated and reveal that there is a positive relationship between having school-age children and the likelihood of being a geographic bachelor in the areas of interest. In this dataset, geo-bachelors represent 24.81 percent of Marines married to dependent spouses. The estimates also reveal that the greatest positive effects are associated with Marines who

have at least one secondary school-age child. Specifically, the odds of becoming a geographic bachelor are respectively 43.2 and 40 percent less likely if a Marine has at least one elementary or middle school-age child, compared to having at least one secondary school-age child, all else constant. Marines assigned to Albany, Georgia are 1.87 times more likely to become geo-bachelors than those assigned to Camp LeJeune and exhibit the greatest likely of choosing geographic bachelorhood. Of the four locations, Marines assigned to Camp LeJeune/Jacksonville, North Carolina are the least likely to become geographic bachelors.

Analysis involving school district boundaries demonstrate a similar positive relationship between the existence of school-age children and the likelihood of living within the assigned location's school district boundaries. In this dataset, 76.66 percent of Marines with at least one school-age child live within their respective school-district boundaries. Of all the locations, the area exhibiting the greatest positive effect is Camp LeJeune/Jacksonville, North Carolina where Marines with school-age children are 2.54 times more likely to live within the boundaries than those without, all else held constant. The area observed to have the least positive relationship between presence of school-age children and living within the boundary is Hawaii where Marines with school-age children are 1.82 times more likely to live within the school district boundary than Marines without school-age children, all else constant.

Results relating to research question two also indicate a significant positive correlation between being identified as black and the likelihood of living within the Albany school district boundaries. Regression estimates reveal that black Marines assigned to Albany are 1.9 times more likely than white Marines to live within the school district boundaries, all else equal. This correlation is significant and negative for all other locations.

E. RECOMMENDATIONS

This study should be expanded to include other base locations that have a less negative perception of K-12 school options. Expansion of this study should also include within-state comparisons for each location to either refute or confirm the perceptions of

under-performance. Access to complete dependent residence zip codes would permit analysis using geographic information systems models, offering more thorough analysis of the geographic relationships between dependents and bases or spouse. Future studies relating to this topic should include data from Marine Corps-wide surveys that are well-designed with the intent to answer questions associated with co-location decisions and school choice options. Additionally, school liaison offices should be utilized to keep track of all military-affiliated dependents' school enrollment. This can be accomplished by mandating all personnel to visit the school liaison upon check in/out and ensuring liaisons receive regular enrollment updates from the surrounding schools.

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II. LITERATURE REVIEW

A. DECISION MAKING

1. Tiebout Model

In his 1956 article "A Pure Theory of Local Expenditures," Charles M. Tiebout formalizes how one might achieve efficient provision of public goods even when the free-rider problem exists. The theory revolves around optimizing the allocation of taxes in such a way that ensures public goods expenditures accurately reflect the population's preferences. Public goods are non-excludable goods available for collective consumption which can be consumed by one individual without subtracting its availability to other individuals (Tiebout, 1956, p. 416). Tiebout believes that facilities and services such as schools, municipal golf courses, beaches, parks, police protection, roads, and parking facilities are considered public goods.

In Tiebout's (1956) framework, areas with many, small local governments can be viewed as a decentralized pricing system in which "the revenue and expenditure patterns are more or less set" (p. 418), and the consumer-voter can then choose to shop around and reside wherever his preferences are best satisfied. However, Tiebout's local government model (commonly referred to as "voting with one's feet") includes seven important assumptions. The assumptions are: (1) Consumer-voters must be fully able and willing to move into those communities which best satisfy their preference patterns; (2) Consumer-voters have full knowledge of "menus" for the various tax/service combinations available and that they react to these differences; (3) There are many communities to choose from; (4) There are no restrictions on mobility due to employment (income is independent of choice); (5) There are no spillovers of benefits or taxes from other communities; (6) A restraint exists in the form of fixed factors or resources which generate optimal community sizes; and (7) Communities will take appropriate action to gain or maintain their optimal size in order to ensure the lowest average costs.

If these assumptions are met, Tiebout's model can be compared to private markets by visualizing one consumer walking to a private establishment to buy goods at a set

price, and another consumer walking to a community or neighborhood where the prices (taxes) of the services provided in that community are set (Tiebout, 1956, p. 422). They have each made a choice based on their preferences. As Tiebout says in his conclusion, "If consumer-voters are fully mobile, the appropriate local governments … are adopted by the consumer-voters" (1956, p. 424). Under Tiebout's assumptions, people intentionally select a local government based on its set revenue-expenditure patterns.

2. What Constitutes a "Good-Quality" School

Choosing the right school is important to parents because it is a human capital investment in which the children and parents stand to benefit. This choice can be thought of as a utility maximization decision where school quality is the utility-producing good (Chakrabarti & Roy, 2010). When it comes to defining exactly what it is that makes a good-quality school, however, perceptions seem abstract and opinions vary greatly.

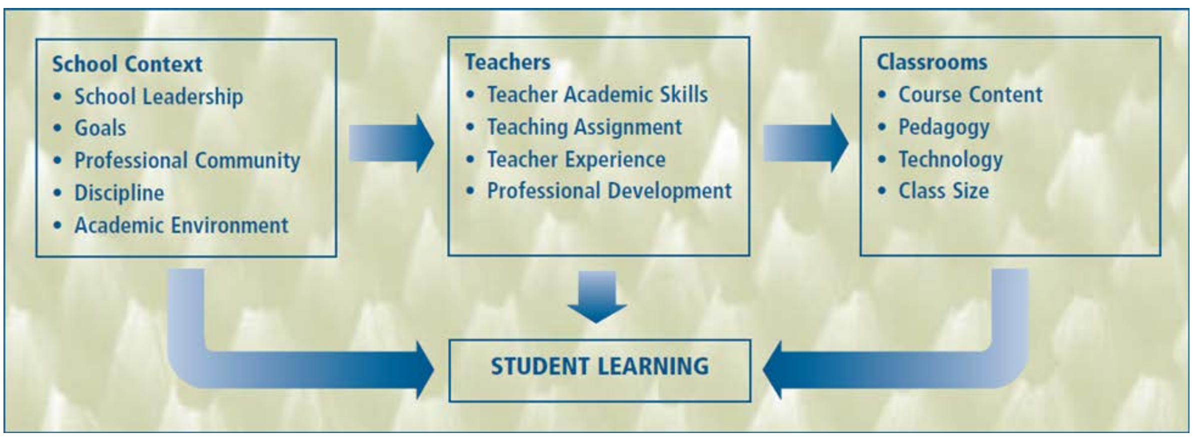
In the academic research literature, school quality measures abound and are split into two general categories: input- and output-based. Equation 1 shows the education production function and demonstrates that output measures are essentially a function of the input measures.

$$Y_t = f(S_t, F_t, P_t, Y_{t-1}) \tag{1}$$

The outputs (Y_t) are variables such as academic test scores, graduation rates, and rates of college attendance; output measures are typically quantifiable and straightforward. Input measures, on the other hand, include a variety of things which may be quantitative or qualitative. Input variables include school resources (S_t) such as the number of computers, student to teacher ratios, teacher quality/experience, facilities, and overall per-pupil expenditure. They also include family characteristics (F_t) such as parents' education, income, degree of involvement, and race/ethnicity, as well as peer characteristics (P_t) like friends' test scores or extracurricular activities. The final input variable represents the last year's (t-1) academic/education output (Y_{t-1}) as a baseline input into this t year's education production output.

In 2000, the National Center for Education Statistics (NCES) reported a similar relationship between student learning/achievement and various input measures. The NCES identified three critical areas they consider to be primary contributors to students' overall learning and the overall quality of a school. These areas are "the training and talent of the teaching force [teachers], what goes on in the classrooms [classrooms], and the overall culture and atmosphere of the school [school context]" (Mayer, Mullens, & Moore, 2000, p. i). The NCES further reports that these three areas contain 13 school quality indicators that directly and indirectly affect student learning (see Figure 1). The report confidently presents these indicators, but also clearly states that "the link between learning and these factors is not firmly established for all of these indicators" (p. ii), and more precise measures are needed.

Figure 1. School Quality Indicators and Their Relationship to Student Learning. Source: Mayer et al. (2000).



Not everyone agrees on the accuracy or importance of certain school quality measures. Wells and Crain (as cited in Miamidian [2011]) argue that output measures such as the rate of college attendance are problematic because they have more to do with the family's wealth and background than the quality of a school. Also, Boyd, Grossman, Lankford, Loeb, and Wyckoff (2005), Kane, Rockoff, and Staiger (2006) each reveal that assessments of teacher credential and training contributions to student achievement are inconsistent, making it difficult to link these input measures to outputs.

Policy makers tend to focus on the impact that school resources have on academic achievement; however, as early as 1966 with the publication of the Coleman Report, researchers have recognized the pitfalls of placing too much emphasis on school resources as a measure of school quality (Coleman et al., 1966). According to the Coleman Report (1966), the greatest differences in segregated schools were the educational backgrounds of fellow students. While student achievement differed greatly between segregated schools, the facilities and curriculum were quite similar, indicating that school resources have less of an effect on student achievement than peer-group characteristics. Hoxby (2003) also expresses how school quality is in part determined by the abilities of its student body. She claims that the peer-group effects of higher-ability students dramatically raise school quality. In the 1960s, desegregation laws were created to combat the ability-driven differences and achieve greater equality in educational opportunities. However, studies show that own-race preferences are still present and may contribute greatly to a parent's school choice decision (Lankford & Wyckoff, 2000; Saporito & Lareau, 1999; Weiher & Tedin, 2002; Hastings, Kane, & Staiger, 2005).

Although survey results within the parental choice literature consistently indicate that parents are indifferent to demographic composition and do not exhibit preference towards student demographics (Chakrabarti & Roy, 2010), their observed behavior reveals otherwise. According to Elacqua, Schneider, and Buckley (2006), 87 percent of parents in their sample sorted across schools based on parent education and socio-economic status measures and they only considered schools that had similar demographics to their own. More specifically, race has been a consideration for parents. Schneider and Buckley (2002) find that in general, parents (regardless of race) seek schools with fewer black students. Hastings, Kane, and Staiger (2005) also find that school test scores are less of a predictor of school choice than the percentage of black students.

Finally, it can be argued that student body demographics are strongly correlated with the school's location. Saporito and Lareau (1999) study the importance of location on school choice and find that both whites and blacks prefer schools closer to their homes; however, they also note that whites are typically willing to travel further in order

to attend schools meeting other preferred characteristics (such as higher proportions of white students). Similarly, Glazerman (1998) finds that parents place a relatively low value on location with only 26 percent of his sample choosing the school closest to their home.

3. How Might Parents Decide?

Proximity may be a weighty consideration for many parents making school choice decisions, but do they choose schools based on local-level expenditures as Tiebout's (1956) "voting with one's feet" model suggests? Hoxby (2003) explains that today's neighborhood designs present limitations to Tiebout's model. Many counties within the United States are geographically large and contain multi-school districts. Additionally, many states have been leaning towards reforms aimed to equalize expenditure in educational finance. Within a given county, variation in school quality is likely to exist but it can no longer be attributed to community-level politics as Tiebout suggests. Parents are now choosing between neighborhoods that share resources and seem to be making their school choice decisions based on factors other than expenditure.

If local community finances are less of a consideration, how do parents sort the multiple, often subjective, school quality measures in order to effectively evaluate schools and make the best decision regarding where their children should be educated? One theory regarding decision-making in general is the rational choice theory. This approach to explaining the process of making decisions is empirically focused and predictive in nature. When it comes to school choice, Miamidian (2011) presents the idea of an educational marketplace in which parents are free to leave a school they are dissatisfied with and search for one that better fits their educational needs. This implies that parents are rational beings who identify their own personal needs and make calculated decisions based on the degree of fulfillment expected. A rational man making economic decisions is explained further by economist Herbert Simon (as cited in Miamidian [2011]); he writes,

> This man is assumed to have knowledge of… relevant aspects of his environment… He is assumed also to have a well-organized and stable system of preferences, and a skill in computation that enables him to

> calculate, for the alternative course of action [i.e., decisions]… available to him, which of these [decisions] will permit him to reach the highest point on his preference scale. (p. 104)

Using the rational choice theory to evaluate parents' school-choice decisions implies that families would essentially rank the most desired features of a school in order of importance to them. Once the rankings are set, they would then select the school that best satisfies the greatest number of these desired features, a sort of process of elimination.

This is similar to the utility-maximization paradigm, as Chakrabarti and Roy (2010) explain and as laid out in Tiebout's model. As a consumer, families (parents) make decisions regarding the distribution of their wealth or resources. Along with other goods, school quality yields a certain amount of utility that the family will try to maximize given their limited resources. Schools are characterized by quality measures such as academic achievement, student to teacher ratios, school demographics, and/or location, which all come at a price. The costs associated with school quality can take the form of private school tuition, or can be thought of in terms of opportunity costs for tuition-free public schools. Every family has a different utility function or set of preferences. Families that place a stronger value on school quality will be more likely to sacrifice other expenses in order to attain it.

While the rational choice theory seems rather straightforward, it has limitations preventing a thorough explanation about how a parent's decisions are made. The rational choice theory fails to consider external influences that greatly effect decision making. As Miamidian (2011) says, "External social and cultural influences exert varying levels of constraint upon different families making these decisions" (p. 29). Additionally, this theory assumes that parents will have access to information for every school available and they will be equally effective in assessing each school's features.

In addition to what the utility-maximization function suggests, Bulman (2004) explains that the process of selecting a school is different than the process of selecting any other consumable good. When assessing schools, many issues other than school quality measures are considered. According to Bulman (2004) there are a number of

additional factors that may influence families facing school choice decisions. He suggests that "parents draw heavily upon the tools of their past educational experiences (and often religious faith) as they interpret the educational world and take action within it" (Bulman, 2014, p. 494) and emphasizes the importance of considering cultural aspects when studying school-choice.

Considering cultural and social influences as additional factors effecting school choice decisions also implies that there may be variations in the way racial groups make these choices. Studies presented in Miamidian's (2011) dissertation indicate that white families tend to immediately eliminate schools that have predominantly African American students, no matter how many positive features the school might have. This same study also revealed that African American parents may avoid schools that have large numbers of poor children in the student body, regardless of other features. This is also represented by Holme (2002) when she says that "white, upper-income parents often choose schools that tend to be whiter and wealthier" (p. 182) and "parents of color tend to choose schools where their children are better represented" (p. 182). These findings demonstrate that the parents' race often has an impact on the school choice decision-making process they undergo.

Social networks arguably play an even larger role than race in the choices parents make (but the two may be considered as highly correlated). For parents in the decision making process, information received through social networks is often weighted heavier than any other factor. Holme's (2002) research reveals that "most parents [...] based their judgements about the school quality primarily on information from individuals in their social networks" (p. 180). She goes on further to say that the information provided did not even include standard quality measures such as curricula or instructional quality. Another article by Petronio (1996) uses survey results to support this by saying "Rather than quantitative data (test scores) on school performance, parents wanted answers to two questions: Is it a good school? Are the teachers good? For that information, parents turned to their friends and neighbors" (p. 33).

Often times, a school choice decision manifests itself in a residential choice decision. In 1995, the NCES indicated that "47 percent of parents with children attending

grades 3 through 12 in 1993 reported that their choice of where they lived now was influenced by where their child would attend school" (Pfeiffer, 2008, p. 11). While this does not represent a majority, it is significant and worthy of exploration.

If a significant number of families' residential decisions are based on school preferences, how much would they be willing to pay in order to go to a good school? Black's (1999) report addresses this very question regarding the value of good schools. In her study, Black (1999) uses a hedonic regression to examine the relationship between school quality and house prices in a unique and well-defined way. Black (1999) was not the first to attempt this type of analysis; however, previous research was biased due to omitted variables and the overall methodology needed revision.

According to Black (1999), there were two types of omitted variable problems in previous research. The first problem regarded omitted variables such as property tax rates and public goods provision at the school district level (Tiebout model considerations). The second issue with previous analysis was that there were omitted variables such as neighborhood characteristics, which could change over space (Black, 1999). To address these omitted variable problems, Black's (1999) methodology includes a "full set of boundary dummies that indicate houses that share (on either side) an attendance district boundary" (p. 579). Including these dummies ensures that the unobserved characteristics shared by houses on either side of the boundary are accounted for. The comparison occurs among houses that are within close proximity to each other but belong to different school districts due to the boundaries set by the city/state. The resulting equation is:

$$\ln(price_{iab}) = \alpha + \chi_{iab}\beta + K_b\theta + \gamma test_a + \varepsilon_{iab'} \qquad (2)$$

Where $price_{iab}$ is the cost of house i in attendance district a close to boundary b, and K_b is a vector of boundary dummies.

Black's (1999) main finding from Equation (2) indicates that parents are "willing to pay about 2.1 percent—or $3948—more for houses associated with test scores that are 5 percent higher at the mean" (p. 595). This implies that parents are not the only ones concerned with the value of better schools; it extends to other home owners in the community and even local politicians. While this analysis is able to put a price tag on

school quality, it still fails to address what it is that causes the schools to achieve different test scores. The question remains: is the quality of a school attributed to better teachers, administrators, peers, or parents? Or is it something else entirely?

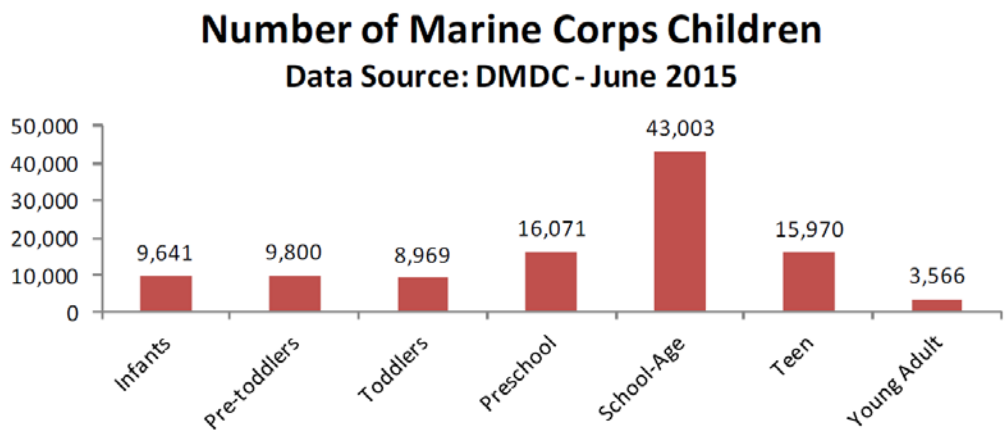
B. MILITARY FAMILIES

In military families, there are unique factors that influence a parent's school choice decisions. Service members are forced to take assignments in given areas which diminishes their ability to "vote with one's feet", as in Tiebout's (1956) local government model. The margin along which they can vote with their feet is by choosing to be geographic bachelors and reside separately from their family. Military families are also special in that they tend to form symbiotic networks, so they may rely effectively on their networks to answer questions about local schools when transitioning to a new location. Additionally, military members receive a rank-based monthly allowance for housing. For some families, their residential decision may be influenced by this housing allowance alone as opposed to school selection considerations.

1. Quality of Life

According to the June 2015 Marine Corps Demographics Update, nearly 185,000 active duty Marines served in the Marine Corps. Of these active duty members, 44.9 percent were married, bringing over 75,000 spouses into the Corps and almost 100,000 children. Single Marines contribute to the number of dependents as well, accounting for nearly 6,500 children. Although the ages of dependent children range from infant to 19 years, the largest of the defined age groups is identified as school-age (5–12). This group makes up approximately 43 percent of the children, as indicated in Figure 2.

Figure 2. Number of Marine Corps Children. Source: Headquarters Marine Corps, Marine & Family Programs (2015).



Although the Marine Corps has the smallest percentage of married members when compared to other branches of service, married Marines still represent a large portion of the Corps and families are important to the institution as a whole. Often times, retention decisions of married Marines are based on the quality of life experienced by the spouse or family. An entire chapter is dedicated to the value of quality of life programs in the Department of Defense's Tenth Quadrennial Review of Military Compensation, demonstrating the significance families have on recruitment, retention, and overall readiness. A 2013 RAND report also recognizes the importance of families, saying that "the success of an all-volunteer force depends on the satisfaction, health, and well-being of service members and their families" (Meadows, Miller, Miles, Gonzalez, & Dues, p. 16).

2. Schools

Among a list of factors that contribute to a spouse's or family member's quality of life is the quality of the local schools available to them. According to the Department of Defense (DOD) (2008), "Maintaining quality education and smooth transitions for [military members'] children is a critical priority for military parents and a goal shared by DOD" (p. 136). The DOD's contribution to military children's education is categorized into three different programs. One program is dedicated to schools overseas (Department

of Defense Dependent Schools—DODS), another is specific to the Continental United States (Domestic Dependent Elementary and Secondary Schools - DDESS). DDESS schools currently operate on select bases in Alabama, Georgia, Kentucky, New York, North Carolina, South Carolina, Virginia, Guam, and Puerto Rico. A third program uses the Department of Education to subsidize local public schools that serve a large population of military dependents (Impact Aid).

The Military Impacted Schools Association reported that over $1.2 billion was appropriated to qualifying schools through Impact Aid in 2015. According to the DOD Education Activity's Report to Congress (2015), a total of 573,057 military dependents attended non-DOD schools. This equates to roughly $2,250 per pupil in Impact Aid appropriations. Impact Aid is available to all U.S. school districts that have at least 400 federal students or have a federally-connected student population of at least 3 percent. Impact Aid is given to the school district and may not necessarily impact the specific school that these children attend.

Although a majority of military children attend public or private schools off-base, there are often on-base options such as DOD schools, non-DOD public schools, and public charter schools. The interest in offering charter schools as an on-base option has grown rapidly in military families as there are some installations known for having underperforming local public schools. The 2013 Charter Schools report conducted by the GAO (Scott, Doughty, Baxter, Bodine, & Signer, 2013) finds that there are already eight charter schools operating on military bases (most of these are located on Air Force bases). Although the population of on-base residents is predominantly military, enrollment is open to non-military children and off-base residents as well. Considering that there are only a few domestic geographic locations where DOD schools operate, allowing bases to incorporate charter schools could provide families with greater choices for educating their children.

C. SUMMARY

The study of school choice or school quality measures traverses multiple disciplines. Regardless of the primary focus or overall outcomes of these studies, parents make school choice decisions based on their own personal methods. Whether driven by emotion, logic, or social influence, a parent will demonstrate satisfaction or dissatisfaction with their child's school by choosing to remain where they are, enrolling in a different school within the same district, or relocating to a different school district.

Military families also make school choice decisions for their children, but they are often faced with fewer choices because of where they are stationed. While the DOD has programs dedicated to the education of military children, there are only nine states in the United States that offer DDES schools. The school choice limitations that military families often face may force them to choose between settling on a school they believe to be unsatisfactory, or residing separately from their military spouse in order to stay in a good school district.

III. DATA AND METHODOLOGY

A. DATA SOURCE

Data used in this study is drawn from the Total Forces Data Warehouse (TFDW). The TFDW houses data from other systems including Marine Corps Total Force System, which is the primary source for the personnel information used in this thesis. Data provided by TFDW consist of personnel and demographic information for Marines and family members assigned to Jacksonville, North Carolina; Albany, Georgia; Twentynine Palms, California; and Honolulu (Kaneohe Bay), Hawaii between October, 2011 and September, 2016. The original data set includes 77 variables and 332,334 observations sorted by an electronic interchange person identifier and record identifier.

B. DATA CLEANING

Many observations in the raw data provided by TFDW contain duplicate family member information that must be addressed. Upon identifying and dropping duplicates, the data consists of 293,103 unique observations. At this point, each family member shares an electronic ID with their sponsor and is considered an individual observation. Collapsing the data by electronic ID prior to conducting analysis allows one observation to represent an entire family when appropriate. This results in 169,346 unique observations representing a single Marine or a Marine and his or her family. Single Marines with school-age dependents represent 1,115 of these observations.

C. VARIABLES

A full description of the variables that are used in this analysis can be found in Table 1.

Table 1. Description of Variables

Variable Name	**Description**
SchoolAge	Dependents age 5-18 [0,1]
Num_SchoolAge	Total number of School Age Depn
Elementary	Dependents age 5-10 [0,1]
Num_Elementary	Total number of Primary Age Depn
Middle	Dependents age 11-14 [0,1]
Num_Middle	Total number of Middle School Depn
Secondary	Dependents age 15-18 [0,1]
Num_Secondary	Total number of High School Depn
BASE	Assigned base (Albany, Camp Lej, 29Palms, Hawaii)
Albany	Assigned to Albany
Camp_LeJenue	Assigned to Camp LeJeune/Jacksonville
TwentyPalms	Assigned to 29Palms
Hawaii	Assigned to Hawaii
In_Albany	Dependents living within Albany School District
In_Camp_LeJeune	Dependents living within Camp LeJeune School District
In_TwentyPalms	Dependents living within 29Palms School District
In_Hawaii	Dependents living within Honolulu School District
In_Any_Boundary	Dependents living within any of the four School District
Ewhite	White/Caucasian
Ehispanic	Hispanic
Eblack	Black/African American
Easian	Asian
Eother	Other
Married_Depn	Civilian Spouse [0,1]
Married_Mil	Service Member Spouse [0,1]
Married	Married [0,1]
Pres_Grade	Grade at time of assignment
Edu	Highest Grade (12, College, Bachelors, Masters, Beyond)
X_EDU	Missing civilian education [0,1]
Co_Loc	Family co-located [0,1]
Geobach	Geographic bachelor [0,1]
Geobach2	Geographic bachelor [0,1] all married Marines
YearsSvc	Years of service at assignment
X_SERVICE	Missing years of service [0,1]
electronic_identification	Electronic ID

1. Dependent Variables

a. Geographic Bachelor (GEOBACH)

According to the United States Marine Corps (2009), a geographic bachelor is a “service member … authorized to be accompanied by dependents … who for personal reasons other than availability of housing at the permanent duty location, is not accompanied by dependents” (p. 2-61). To construct a variable for identifying geographic bachelors, it is necessary to create a binary co-location variable by assigning “1” to the observations in which the dependent’s three-digit geographic location code matches the service member’s geographic location code or the dependent’s location (CITY, ST) matches the service member’s location.

For co-location identification only it is necessary to modify some of the dependent’s location and geographic location codes. Areas in the vicinity of the four assignment locations can be named differently. For example, dependent locations of “JOSHUA TREE, CA” are actually in “TWENTYNINE PALMS, CA.” To make the coding consistent and identify geographic bachelors, I replace dependent geographic codes of “316, 398, or 315,” with “317” to indicate that they are either contiguous or located within a reasonable commuting distance to Albany, GA. Likewise, I replace dependent geographic codes of “923, 924, 917, 935, and 925” with “922” for Twentynine Palms, CA. I replace those with codes of “967” with “968” for Hawaii and “284” with “285” for Jacksonville, NC. Similarly, in order to generate the best co-location variable I replace some of the dependent locations as well. I change dependent locations that read “SNEADS FERRY, NC” or “CAMP LEJENUE, NC” to “JACKSONVILLE, NC” since service members assigned to installations in Jacksonville or Camp Lejeune indicate “JACKSONVILLE, NC” as their location. Likewise, I change dependent locations of “JOSHUA TREE, CA” and “YUCCA VALLEY, CA” to “TWENTYNINE PALMS, CA.” Hawaii is a unique location in which dependents residing anywhere on the island are considered to be co-located if their sponsor is assigned to Hawaii; therefore, I replace all on-island dependent locations with “HAWAII”.

It is important to include both dependent location and geographic location for generating the co-location variable because some of the observations contain conflicting data in which the geographic code is missing or represents a different state than the location reported, even after modifications. Using both of these expressions ensures that at least one match will produce a "1" for the co-location variable, resulting in the most comprehensive and conservative way to identify geographic bachelors.

The second variable that is used to identify geographic bachelors is "Married_Depn". The married dependent variable identifies Marines who are married to civilians and is combined with co-location to represent those who are married to a dependent but are not co-located (Married_Depn==1 & Co_Loc==0). Dual service-member couples are not included in this variable because there are unique service-driven factors that could cause them to reside separately from one another. Additionally, they cannot claim one another as a dependent, which is necessary to be considered a geographic bachelor. To demonstrate differences when they are included, I also create GEOBACH2, which is GEOBACH as described previously including dual-service couples. Table 2 shows the number of Marines married to dependents or service members, as well as the number of GEOBACH and GEOBACH2 observations.

Table 2. Summary of Married and Geo-bachelor Status

Variable	Frequency	Percent
Married_Depn	46623	27.6
Married_Mil	5039	3.0
GEOBACH	11565	6.8
GEOBACH2	13272	7.8

b. Boundaries

Each installation's school liaison website provides information regarding local school districts. The school districts are identified by counties and include multiple communities within the surrounding area. The most preferred method for determining whether or not family members reside within the installation's school district boundaries

is to use the designated residential zip code and match it with those inside the district. Unfortunately, zip code data for dependents is limited to the first three digits, and as previously mentioned, often conflicts with the reported location variable. In order to create the most conservative boundary variables, a combination of matching codes or locations is used. The geographic codes and locations used in the generation of the new boundary variables are unmodified.

There are four boundary variables used to represent the locations of interest. The variable In_Camp_LeJeune identifies anyone who has either the dependent geographic location code of “285,” a dependent location of “JACKSONVILLE, NC.” or dependent location “CAMP LEJENUE, NC.” The variable In_Albany identifies anyone who has the dependent geographic location code “317” or dependent location “ALBANY, GA.” In_TwentyPalms identifies those with dependent geographic location code “922”, or dependent locations “TWENTYNINE PALMS, CA. JOSHUA TREE, CA; or YUCCA VALLEY, CA.” In_Hawaii represents those with dependent geographic codes “966, 968, or 967” or dependent locations “HONOLULU, HI or PEARL HARBOR, HI.” The locations chosen for inclusion are within the given installation school district boundaries.

2. Independent Variables

Most of the independent variables used in this study are easily understood and need no further explanation. However, there are a number of variables relating to the age of dependent children to describe. Since the current age of a child is irrelevant, the age of dependents at the time of interest is determined by subtracting the child’s date of birth from the service member’s present unit join date and dividing that by 365. This calculation returns negative ages for those dependents born after the member’s present unit join date. For the purpose of this thesis, only dependents aged 5 or older are of importance, and thus negative age calculations are not a concern.

The variable for school age dependents records those between the ages of 5 and 18 years old. This variable is used in binary form as well as in the form of “Num_SchoolAge,” which totals the number of school-age dependents in a single family. Likewise, variables indicating the level of study/school are created in the same manner.

Although each state has its own age requirements, a generally accepted criterion for age ranges is used for these school-level variables. The primary/elementary school variable is restricted to children between the ages of 5 and 10, middle school represents ages 11 through 14, and secondary/high school includes children between 15 and 18 years old. Table 3 is a summary of the school-age children in this dataset.

Table 3. Summary of School-Age Children

Variable	**Frequency**	**Percent**
School Age	28308	11.84
Elementary	14900	6.23
Middle	7315	3.06
Secondary	6093	2.59

Table 4 provides a summary of the ethnicities represented in the dataset as these variables are critical to certain models in this thesis.

Table 4. Summary of Ethnicities

Variable	**Frequency**	**Percent**
White	104325	61.6
Hispanic	29195	17.24
Black	19163	11.32
Asian	5879	3.47
Other	2743	1.62

Some observations in the original data are missing civilian education or years of service values. To ensure the missing observations are included in the analysis, X_EDU and X_SERVICE are created. These binary variables capture the effects of missing civilian education or years of service data.

D. METHODOLOGY MODELS

A linear probability model would not be appropriate since the outcome of importance is binary and because we are interested in the probability (bounded between 0 and 1) of being a geographic bachelor or living within a certain boundary. Linear probability models may produce predicted probabilities outside [0, 1], and thus, have no logical interpretation for this analysis. Meanwhile, Probit and Logistic or logit regression models are equally appropriate for this analysis. Several comparative tests are computed to identify whether great differences in the probit versus logit model results exist. The tests reveal that probit models have comparable goodness-of-fit to logit models and the estimates for each are similar; one model does not clearly out-perform the other. In the end, logit models are used to analyze the data because they produce a more appealing interpretation.

1. Model 1: Geo-bachelor Probability

To model the probability of geo-bachelorhood as a function of having school-age children, I estimate Model 1 using a logit regression (see Equation 3).

$$\begin{aligned}\Pr(Geobach_i = 1) = F(&\beta_0 + \beta_1 SchoolAge_i + \beta_2 Elementary_i + \beta_3 Middle_i \\ &+ \beta_4 EHispanic_i + \beta_5 EBlack_i + \beta_6 EAsian_i + \beta_7 Edu_i + \beta_8 YearsSvc \\ &+ \beta_9 X\_\mathrm{EDU} + \beta_{10} X\_\mathrm{SERVICE} + \partial_1 Albany + \partial_2 TwentyPalms + \partial_3 Hawaii)\end{aligned} \tag{3}$$

where *i* indexes individuals with school-age children and *F*(.) is the logistic function. ß1 through ß3 correspond to the association of geo-bachelorhood with school-age children by category, relative to secondary school-age dependents. SchoolAge=1 if *i* has any dependent children between the ages of 5 and 18 and zero otherwise; Elementary=1 if *i* has any dependent children between the ages of 5 and 10, zero otherwise; Middle=1 if any dependent children between the ages of 11 and 14, zero otherwise. Likewise, ß4 through ß6 represent the effects of ethnicity on the probability of being a geo-bachelor (EHispanic=1 if declared Hispanic, zero otherwise; EBlack=1 if declared Black, zero otherwise; EAsian=1 if declared Asian, zero otherwise). Edu represents the level of civilian education for individual *i* and YearsSvc denotes the years of active service for

individual *i*. The last three variables, ∂1 through ∂3, indicate the association of geo-bachelorhood with bases Albany, Twentynine Palms, and Hawaii relative to Camp LeJeune (Albany=1 if member assigned to Albany, zero otherwise; TwentyPalms=1 if member assigned to Twentynine Palms, zero otherwise; Hawaii=1 if member assigned to Hawaii, zero otherwise).

2. Models 2–5: Probability of Living within School District Boundaries (Albany, Camp LeJeune, Twentynine Palms, and Hawaii)

Models 2 through 5 are logit regressions estimating the effects of having school-age children on the probability of living within the school district boundaries Albany, GA; Camp LeJeune/Jacksonville, NC; Twentynine Palms, CA; or MCB HI. Models 2 through 5 can be seen in Equation 4:

$$\begin{aligned}&\Pr(Boundary_i = 1) = F(\beta_0 + \beta_1 SchoolAge_i + \beta_2 Elementary_i + \beta_3 Middle_i \\ &+\beta_4 Ehispanic_i + \beta_5 Eblack_i + \beta_6 Easian_i + \beta_7 Edu_i + \beta_8 YearsSvc_i) \\ &+\beta_9 X\_\mathrm{EDU}_i + \beta_{10} X\_\mathrm{SERVICE}_i\end{aligned} \tag{4}$$

where *i* indexes individuals with school-age children. ß1 through ß3 correspond to the association of living in school district boundaries with school-age children by category, relative to secondary school-age dependents (SchoolAge=1 if any dependent children between the ages of 5 and 18, zero otherwise; Elementary=1 if any dependent children between the ages of 5 and 10, zero otherwise; Middle=1 if any dependent children between the ages of 11 and 14, zero otherwise). Likewise, ß4 through ß6 represent the effects of ethnicity on the probability of being a geo-bachelor (Ehispanic=1 if declared Hispanic, zero otherwise; Eblack=1 if declared Black, zero otherwise; Easian=1 if declared Asian, zero otherwise). Edu represents the level of civilian education for individual *i* and YearsSvc denotes the years of active service for individual *i*, while X_EDU and X_SERVICE represent observations with missing education or years of service data.

IV. RESULTS

The primary purpose of this study is to examine how likely it is that Marines with school-age children choose to become geographic bachelors given they are assigned to bases with a reputation for low quality public K-12 schools. To further demonstrate how crucial school quality is to Marines' location decisions, this thesis also assesses the probability that a family will choose to reside within the school district boundaries of these particular bases.

A. MODEL 1: GEOGRAPHIC BACHELOR PROBABILITY

1. Effects of School-Age Children

Columns (1) and (3) of Table 5 reveal a positive relationship between both the presence and number of school-age children and the probability of being a geographic bachelor. Column (1) illustrates effects at the intensive margin, indicating that one more school-age child increases the probability of being a geographic bachelor; this relationship is statistically significant. Likewise, column (3) shows the extensive marginal effect that having school-age children has on the probability of being a geographic bachelor. This relationship is also positive and statistically significant, showing that in models without covariates, the probability of geo-bachelorhood is near-certainty among Marines with any school-age children relative to those without who are assigned to these four bases.

Table 5. Marginal Effects of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
Num_SchoolAge	0.3927***	0.1534***		
	(0.0126)	(0.0185)		
SchoolAge			1.0150***	0.7169***
			(0.0252)	(0.0436)
EHispanic		0.0952***		0.0894***
		(0.0256)		(0.0256)
EBlack		-0.1418***		-0.1467***
		(0.0329)		(0.0329)
EAsian		-0.3186***		-0.3131***
		(0.0609)		(0.0609)
Edu		0.1595***		0.1674***
		(0.0146)		(0.0146)
YearsSvc		0.0404***		0.0217***
		(0.0024)		(0.0028)
X_EDU		-0.0471		-0.0316
		(0.0998)		(0.0992)
X_SERVICE		0.3274		0.2501
		(0.3561)		(0.3554)
Constant	-2.6943***	-2.9608***	-2.7459***	-2.9728***
	(0.0103)	(0.0214)	(0.0107)	(0.0214)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

In addition to the marginal effects, Table 6 shows the odds ratios that correspond to school-age children. The odds ratios represent the constant effect that school-age children have on the likelihood of being a geographic bachelor. As the table indicates, Marines with school-age children have greater odds of becoming geographic bachelors as compared to those without school-age children. When evaluated without demographic or other explanatory variables (column [3], Table 6), the odds that Marines with school-age children choose geographic bachelorhood are 2.76 times that of Marines with no school-age children. Column (4) of Table 6 includes the demographic variables, base location, education level, and years of service. The results are statistically significant and reveal that the odds of Marines with school-age children choosing to be geographic bachelors are 2.05 times that of Marines without school-age children, all else held constant.

Table 6. Odds Ratios of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
Num_SchoolAge	1.4810***	1.1658***		
	(0.0186)	(0.0205)		
SchoolAge			2.7593***	2.0481***
			(0.0696)	(0.0734)
EHispanic		1.0999***		1.0935***
		(0.0281)		(0.0280)
EBlack		0.8678***		0.8636***
		(0.0286)		(0.0284)
EAsian		0.7272***		0.7312***
		(0.0443)		(0.0446)
Edu		1.1729***		1.1823***
		(0.0167)		(0.0169)
YearsSvc		1.0412***		1.0219***
		(0.0024)		(0.0025)
X_EDU		0.9540		0.9689
		(0.0933)		(0.0946)
X_SERVICE		1.3874		1.2842
		(0.4921)		(0.4565)
Constant	0.0676***	0.0518***	0.0642***	0.0512***
	(0.0007)	(0.0011)	(0.0007)	(0.0011)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

2. School Category Effects

Tables 7, 8, 9, and 10 reveal that the effects of having secondary school-age children are positive and much greater than the effects of any other school specific categories. Due to the impact that the secondary school variable has, the interpretation for column (4) of Tables 7 and 8 are given; these results are constructed using secondary school as the baseline.

All of the school-age specific variables presented in Table 7, column (4) are statistically significant at the p<0.01 level. The results indicate that having one more elementary school-age child decreases the probability that a Marine chooses to be a geographic bachelor compared to having one more secondary school-age child, all else constant. When compared to having one more secondary school-age child, having one

more middle school-age child also has a negative effect on the probability of becoming a geographic bachelor, all else held constant. The effect of having one more secondary school-age child is economically large and meaningful, it suppresses the negative effects of the elementary and middle school-age child variables (relative to no school-aged children), allowing the school-age variable to reflect an overall positive effect when averaged across all school-aged children. The extensive marginal effects in Table 8, column (4) mirror those of the intensive effects, demonstrating a negative relationship between having at least one elementary or middle school-age child and the probability of geographic bachelorhood as compared to having at least one secondary school-age child, all else held constant.

Table 7. Intensive Marginal Effects of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
Num_SchoolAge		0.0951***	-0.0879**	0.4020***
		(0.0245)	(0.0358)	(0.0318)
Num_Elementary	0.1240***		0.2120***	-0.2987***
	(0.0274)		(0.0457)	(0.0404)
Num_Middle	-0.1331***	-0.2300***		-0.5219***
	(0.0483)	(0.0551)		(0.0606)
Num_Secondary	0.6498***	0.5472***	0.7369***	
	(0.0407)	(0.0458)	(0.0582)	
Ehispanic	0.0596**	0.0592**	0.0600**	0.0580**
	(0.0258)	(0.0258)	(0.0258)	(0.0258)
Eblack	-0.1085***	-0.1087***	-0.1087***	-0.1060***
	(0.0332)	(0.0332)	(0.0332)	(0.0331)
Easian	-0.3756***	-0.3758***	-0.3759***	-0.3762***
	(0.0614)	(0.0614)	(0.0614)	(0.0614)
Albany	0.6305***	0.6306***	0.6312***	0.6273***
	(0.1219)	(0.1219)	(0.1218)	(0.1214)
TwentyPalms	0.5563***	0.5565***	0.5562***	0.5581***
	(0.0233)	(0.0233)	(0.0233)	(0.0233)
Hawii	0.5752***	0.5761***	0.5750***	0.5805***
	(0.0329)	(0.0329)	(0.0329)	(0.0329)
Edu	0.1563***	0.1563***	0.1562***	0.1531***
	(0.0149)	(0.0149)	(0.0149)	(0.0149)
YearsSvc	0.0376***	0.0376***	0.0378***	0.0369***
	(0.0024)	(0.0024)	(0.0024)	(0.0025)
X_EDU	-0.0149	-0.0166	-0.0142	-0.0171
	(0.1005)	(0.1005)	(0.1005)	(0.1004)
X_SERVICE	0.4041	0.4011	0.4063	0.3881
	(0.3635)	(0.3628)	(0.3638)	(0.3588)
Constant	-3.1171***	-3.1162***	-3.1172***	-3.1091***
	(0.0223)	(0.0223)	(0.0223)	(0.0223)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 8. Extensive Marginal Effects of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
SchoolAge		0.5646***	0.7097***	1.1180***
		(0.0446)	(0.0600)	(0.0501)
Elementary	0.2583***		-0.2584***	-0.5657***
	(0.0426)		(0.0533)	(0.0495)
Middle	-0.2276***	-0.3680***		-0.5094***
	(0.0592)	(0.0571)		(0.0593)
Secondary	0.9086***	0.5560***	0.4127***	
	(0.0480)	(0.0491)	(0.0549)	
Ehispanic	0.0581**	0.0560**	0.0554**	0.0585**
	(0.0258)	(0.0258)	(0.0258)	(0.0258)
Eblack	-0.1083***	-0.1088***	-0.1138***	-0.1060***
	(0.0332)	(0.0332)	(0.0332)	(0.0331)
Easian	-0.3748***	-0.3700***	-0.3723***	-0.3696***
	(0.0615)	(0.0614)	(0.0614)	(0.0613)
Albany	0.6344***	0.6235***	0.6295***	0.6162***
	(0.1226)	(0.1223)	(0.1220)	(0.1235)
TwentyPalms	0.5559***	0.5543***	0.5546***	0.5542***
	(0.0233)	(0.0233)	(0.0233)	(0.0233)
Hawii	0.5725***	0.5686***	0.5730***	0.5695***
	(0.0329)	(0.0329)	(0.0329)	(0.0329)
Edu	0.1592***	0.1621***	0.1627***	0.1601***
	(0.0149)	(0.0149)	(0.0149)	(0.0149)
YearsSvc	0.0341***	0.0244***	0.0209***	0.0251***
	(0.0025)	(0.0027)	(0.0027)	(0.0027)
X_EDU	-0.0125	-0.0042	-0.0070	-0.0044
	(0.1004)	(0.1000)	(0.0998)	(0.1001)
X_SERVICE	0.3870	0.3512	0.3263	0.3479
	(0.3654)	(0.3634)	(0.3608)	(0.3613)
Constant	-3.1239***	-3.1305***	-3.1245***	-3.1302***
	(0.0223)	(0.0224)	(0.0223)	(0.0224)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

The odds ratios in Tables 9 and 10 show the same relationships as the marginal effects results. Table 9, column (4) displays an odds ratio of 0.7418 for the number of elementary school-age children which means that having one more elementary school-age child decreases the odds of becoming a geographic bachelor by 25.82 percent compared to having one more secondary school-age child, all else constant. Similarly, having one more middle school-age child decreases the odds of geographic bachelorhood by 40.66 percent compared to having one more secondary school-age child, all else held constant. As before, the extensive effects in Table 10, column (4) provide the same sort of analysis indicating that the odds of becoming a geographic bachelor are respectively 43.2 percent or 40 percent less likely if a Marine has at least one elementary or middle school-age child, compared to having at least one secondary school-age child, all else constant.

Table 9. Intensive Odds Ratios of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
Num_SchoolAge		1.0998***	0.9158***	1.4949***
		(0.0258)	(0.0312)	(0.0450)
Num_Elementary	1.1321***		1.2361***	0.7418***
	(0.0297)		(0.0544)	(0.0288)
Num_Middle	0.8754***	0.7946***		0.5934***
	(0.0395)	(0.0414)		(0.0338)
Num_Secondary	1.9151***	1.7285***	2.0894***	
	(0.0720)	(0.0743)	(0.1128)	
Ehispanic	1.0614**	1.0610**	1.0618**	1.0598**
	(0.0273)	(0.0273)	(0.0273)	(0.0273)
Eblack	0.8972***	0.8970***	0.8970***	0.8994***
	(0.0297)	(0.0297)	(0.0297)	(0.0298)
Easian	0.6868***	0.6867***	0.6867***	0.6864***
	(0.0421)	(0.0421)	(0.0421)	(0.0420)
Albany	1.8786***	1.8787***	1.8798***	1.8725***
	(0.2275)	(0.2275)	(0.2276)	(0.2258)
TwentyPalms	1.7442***	1.7445***	1.7440***	1.7474***
	(0.0405)	(0.0405)	(0.0405)	(0.0405)
Hawii	1.7775***	1.7790***	1.7771***	1.7870***
	(0.0574)	(0.0574)	(0.0574)	(0.0576)
Edu	1.1692***	1.1692***	1.1691***	1.1655***
	(0.0168)	(0.0168)	(0.0168)	(0.0167)
YearsSvc	1.0383***	1.0383***	1.0385***	1.0376***
	(0.0024)	(0.0024)	(0.0024)	(0.0024)
X_EDU	0.9852	0.9836	0.9859	0.9831
	(0.0969)	(0.0968)	(0.0970)	(0.0966)
X_SERVICE	1.4980	1.4935	1.5013	1.4741
	(0.5326)	(0.5310)	(0.5337)	(0.5241)
Constant	0.0443***	0.0443***	0.0443***	0.0446***
	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 10. Extensive Odds Ratios of Variables on the Probability of Geo-bachelorhood

VARIABLES	(1)	(2)	(3)	(4)
SchoolAge		1.7588***	2.0334***	3.0588***
		(0.0711)	(0.1207)	(0.1380)
Elementary	1.2948***		0.7723***	0.5679***
	(0.0504)		(0.0436)	(0.0272)
Middle	0.7964***	0.6921***		0.6009***
	(0.0448)	(0.0390)		(0.0346)
Secondary	2.4808***	1.7437***	1.5110***	
	(0.1083)	(0.0844)	(0.0881)	
Ehispanic	1.0598**	1.0576**	1.0570**	1.0603**
	(0.0273)	(0.0272)	(0.0272)	(0.0273)
Eblack	0.8973***	0.8969***	0.8924***	0.8994***
	(0.0297)	(0.0297)	(0.0296)	(0.0298)
Easian	0.6874***	0.6908***	0.6892***	0.6910***
	(0.0421)	(0.0423)	(0.0422)	(0.0424)
Albany	1.8859***	1.8654***	1.8767***	1.8519***
	(0.2285)	(0.2256)	(0.2271)	(0.2242)
TwentyPalms	1.7435***	1.7407***	1.7412***	1.7406***
	(0.0405)	(0.0405)	(0.0405)	(0.0405)
Hawii	1.7726***	1.7658***	1.7736***	1.7673***
	(0.0573)	(0.0571)	(0.0573)	(0.0571)
Edu	1.1725***	1.1759***	1.1767***	1.1736***
	(0.0169)	(0.0169)	(0.0169)	(0.0169)
YearsSvc	1.0347***	1.0247***	1.0212***	1.0254***
	(0.0024)	(0.0025)	(0.0024)	(0.0025)
X_EDU	0.9876	0.9958	0.9930	0.9956
	(0.0972)	(0.0978)	(0.0975)	(0.0978)
X_SERVICE	1.4726	1.4208	1.3859	1.4162
	(0.5243)	(0.5062)	(0.4935)	(0.5046)
Constant	0.0440***	0.0437***	0.0440***	0.0437***
	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

3. Location Effects

In this model, Camp LeJeune is the baseline location variable because it applies to the largest number of observations, representing 75.71 percent of the data. Albany is represented by the least amount of observations, making up only 0.27 percent of the data

while Twentynine Palms and Hawaii account for the remaining observations at 17.36 percent and 6.67 percent respectively.

The coefficient estimates and odds ratios of location variables in Tables 7, 8, 9 and 10 reveal that when compared to Marines assigned to Camp LeJeune, those assigned to Albany have an increased probability of choosing to become geographic bachelors, all else constant. Similarly, those assigned to Twentynine Palms and Hawaii are also more likely to choose geographic bachelorhood compared to those assigned to Camp LeJeune, all else held constant. The estimates for these location variables are all statistically significant and of particular interest to this study.

The odds ratios in column (4) of Tables 9 and 10 demonstrate the same general relationship between the locations and probability of geographic bachelorhood. The odds ratio associated with Albany in Table 9, column (4) indicates that the odds of Marines assigned to Albany choosing to be geographic bachelors are 1.87 times that of Marines assigned to Camp LeJeune, all else constant. Likewise, the odds of geographic bachelorhood for those assigned to Twentynine Palms or Hawaii, respectively, are 1.75 and 1.79 times that of those assigned to Camp LeJeune, all else constant. The location variable extensive effects in Table 10, column (4) are also statistically significant and show little variation from the intensive effects in Table 9, column (4).

B. MODELS 2–5: DISTRICT RESIDENCY PROBABILITIES

Complete analysis results for each location boundary can be found in Appendices A through D.

1. Effects of School-Age Children

When other school-related variables are omitted from regression analysis, the school-age variable coefficient estimates and odds ratio results are statistically significant for all boundary locations (see Tables 11 and 12). Jacksonville odds ratio output in Table 12 indicates that Marines with school-age children are 2.54 times more likely to live within the school district boundaries than those without, all else held constant. The other locations reveal similar relationships where, among Marines assigned to

Twentynine Palms, those with school-age children are 1.99 times more likely to live within that school district boundary than those without school-age children, all else constant. Likewise, of Marines assigned to Hawaii and Albany, those with school-age children are 1.82 and 1.88 times more likely to live within the school district boundaries of their given locations than those without school-age children, all else held constant.

Table 11. Marginal Effects of Variables on the Probability of Living within School District Boundaries

VARIABLES	CampLej	29Palms	Hawaii	Albany
SchoolAge	0.9323***	0.6858***	0.6000***	0.6316***
	(0.0293)	(0.0543)	(0.0597)	(0.1797)
Ehispanic	-0.3747***	0.1800***	0.1493***	-0.1885
	(0.0217)	(0.0351)	(0.0412)	(0.1725)
Eblack	-0.1906***	-0.4215***	-0.2953***	0.6232***
	(0.0242)	(0.0516)	(0.0570)	(0.1385)
Easian	-0.7903***	-0.0758	0.6024***	-0.1684
	(0.0522)	(0.0786)	(0.0678)	(0.3435)
Edu	-0.1857***	0.0553***	0.1864***	0.2339***
	(0.0137)	(0.0197)	(0.0192)	(0.0583)
YearsSvc	0.1438***	0.0752***	0.0947***	0.1261***
	(0.0021)	(0.0031)	(0.0033)	(0.0093)
X_EDU	-0.4022***	-0.4565***	-0.1313	0.0250
	(0.0787)	(0.1586)	(0.1662)	(0.5866)
X_SERVICE = o,	0.4633*	-	0.1194	-
	(0.2542)		(0.7232)	
Constant	-1.9569***	-3.8071***	-4.3826***	-7.4281***
	(0.0176)	(0.0289)	(0.0319)	(0.1091)
Observations	169,346	169,216	169,346	169,216

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 12. Odds Ratios of Variables on the Probability of Living within School District Boundaries

VARIABLES	CampLej	29Palms	Hawaii	Albany
SchoolAge	2.5403***	1.9853***	1.8221***	1.8806***
	(0.0633)	(0.0881)	(0.0869)	(0.2776)
Ehispanic	0.6875***	1.1972***	1.1610***	0.8282
	(0.0146)	(0.0418)	(0.0476)	(0.1413)
Eblack	0.8265***	0.6561***	0.7443***	1.8648***
	(0.0200)	(0.0337)	(0.0419)	(0.2571)
Easian	0.4537***	0.9270	1.8265***	0.8450
	(0.0230)	(0.0730)	(0.1253)	(0.2888)
Edu	0.8306***	1.0568***	1.2049***	1.2635***
	(0.0100)	(0.0196)	(0.0225)	(0.0690)
YearsSvc	1.1547***	1.0781***	1.0993***	1.1344***
	(0.0020)	(0.0030)	(0.0033)	(0.0098)
X_EDU	0.6688***	0.6335***	0.8770	1.0253
	(0.0486)	(0.1003)	(0.1466)	(0.6044)
X_SERVICE = o,	1.5893*	-	1.1268	-
	(0.4177)		(0.8159)	
Constant	0.1413***	0.0222***	0.0125***	0.0006***
	(0.0023)	(0.0006)	(0.0004)	(0.0001)
Observations	169,346	169,216	169,346	169,216

seEform in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

2. School Category Effects

Based on thorough comparisons of the results in Appendices A through D, Table 13 provides odds ratios using a baseline of secondary school-age for each boundary as this output provides the best overall interpretation. The effects of different school-age categories on the likelihood of living within the school district boundaries of an assigned base are different for each location. For those assigned to Albany, only one school-related variable is statistically significant, elementary. Of Marines assigned to Albany, those with elementary-age children are 1.84 times more likely to live within the district boundaries compared to those with secondary school-age children, all else held constant.

The results for Jacksonville, Twentynine Palms, and Hawaii each reveal statistically significant adverse relationships between middle school-age children and living within the school district boundary. Those assigned to Jacksonville with middle school-age children are 51.5 percent less likely to live within the school district boundaries than those with secondary school-age children, all else held constant. Similarly, Marines with middle school-age children assigned to Twentynine Palms and Hawaii are 35.4 percent and 31.6 percent less likely to live within their location's school district boundary compared to those with secondary school-age children, all else constant.

The school-age variables for Twentynine Palms and Hawaii are statistically significant and demonstrate a positive relationship between having school-age children and living within the school district boundaries. For Marines assigned to Twentynine Palms, those with at least one school-age child are 2 times more likely to live within the district boundaries than those without any school-age children. Likewise, Hawaii Marines with school-age children are 1.86 times more likely to live within their school district boundaries than those without, all else held constant.

Jacksonville is the only location that has statistically significant results for all school related variables. Similar to the results for middle school-age children, Marines of Jacksonville that have elementary school-age children are 23.78 percent less likely than those with secondary school-age children to live within the school district boundaries, all else constant. Results for school-age children in general reveal that of Marines assigned to Jacksonville, those with at least one child of school-age are 3.4 times more likely to live within the school district boundaries than those without school-age children, all else constant.

Table 13. Odds Ratios of Variables on the Probability of Living within School District Boundaries

VARIABLES	CampLej	29Palms	Hawaii	Albany
SchoolAge	3.4487***	2.0217***	1.8634***	1.2414
	(0.1276)	(0.1253)	(0.1253)	(0.2660)
Elementary	0.7622***	1.0925	1.0857	1.8413***
	(0.0300)	(0.0627)	(0.0656)	(0.3290)
Middle	0.4848***	0.6460***	0.6841***	0.8264
	(0.0207)	(0.0404)	(0.0438)	(0.1407)
Ehispanic	0.6905***	1.1990***	1.1622***	0.8232
	(0.0147)	(0.0419)	(0.0477)	(0.1405)
Eblack	0.8349***	0.6621***	0.7513***	1.9021***
	(0.0202)	(0.0340)	(0.0423)	(0.2624)
Easian	0.4539***	0.9290	1.8311***	0.8430
	(0.0230)	(0.0731)	(0.1256)	(0.2880)
Edu	0.8299***	1.0548***	1.2031***	1.2563***
	(0.0100)	(0.0196)	(0.0225)	(0.0685)
YearsSvc	1.1634***	1.0825***	1.1030***	1.1417***
	(0.0021)	(0.0031)	(0.0033)	(0.0099)
X_EDU	0.6676***	0.6367***	0.8801	1.0356
	(0.0486)	(0.1008)	(0.1473)	(0.6106)
X_SERVICE = o,	1.6586*	-	1.1609	-
	(0.4361)		(0.8409)	
Constant	0.1386***	0.0220***	0.0124***	0.0006***
	(0.0023)	(0.0006)	(0.0004)	(0.0001)
Observations	169,346	169,216	169,346	169,216

seEform in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

3. Demographic Effects

Among the results in Table 13, the ethnicity variable that is statistically significant across all locations is Eblack. The only location that exhibits a positive relationship between Eblack and the likelihood of living within the school district boundary is Albany, indicating that black Marines are 1.9 times more likely than white Marines to live within the boundaries, all else constant. The other locations reveal a negative correlation between being black and living within the school district boundaries of an assigned location. The location with the greatest negative effect is Twentynine Palms, where black Marines are 33.79 percent less likely to live within the boundary than white Marines, all else constant. Results for Hawaii are similar to Twentynine Palms;

compared to white Marines, black Marines are 24.87 percent less likely to live within Marine Corps Base Hawaii's school district boundaries, all else constant. Of Marines assigned to Jacksonville, those identified as black are 16.51 percent less likely to live within the school district boundaries than those who are white, all else constant.

Table 14 displays the mean distribution of Marines identified as "black/African American" by location. Marines identified as black account for 11 percent of the total observations within the data. When sorted by location, this number is nearly doubled for Albany, where 21 percent of the represented population is black. Jacksonville results resemble the overall data at 12 percent while Twentynine Palms and Hawaii are just below the total at 8 percent.

Table 14. Mean Distribution of Black Marines

Base	**Mean**
Jacksonville	0.12
29Palms	0.08
Hawaii	0.08
Albany	0.21
Total	0.11

C. ROBUSTNESS

Alternative models to logit regressions include linear probability models and probit regressions. Linear probability models are inappropriate for this study due to the potential for analysis results that exceed a [0, 1] boundary limitation. Results outside of [0, 1] provide no rational explanations in this analysis. Since both probit and logit models are appropriate for this type of analysis, each is executed and then compared the other. The results for all probit and logit models were consistent across all variables. Probit regression results are provided in Appendix E.

A large majority of the observations in the dataset are "Ewhite" and assigned to "CAMP_LEJ"; therefore, these variables are used as control groups in all models estimating the probability of becoming a geographic bachelor. In this study, all of the

school-age variables have potential as core explanatory variables. As such, robustness checks are conducted by executing a series of logit regressions leaving out a different school-age variable as the baseline each time. As displayed in Tables 7 and 8, the regression results are quantitatively and qualitatively similar, regardless of which school-age variable is used as the baseline or excluded category.

When analysis is limited to married Marines only, the results discussed above are generally confirmed. However, both analyses indicate that there is a great deal left unexplained. Results using the full population of Marines with PCS orders to the four locations are preferred, given the scope of the research question. Limiting the sample to married Marines only also reduces the amount of variation in the data which leads to less meaningful interpretations. As Table 15, column (1) indicates, of Marines who are married, those with one more secondary school-age child are 1.85 times more likely to be geo-bachelors than married Marines with non-secondary school-age children, all else held constant. This estimate is significant at the $p<0.1$ level or with 90 percent degree of statistical confidence. Similarly, Table 15, column (2) shows that married Marines with at least one secondary school-age child are 1.18 times more likely to be geo-bachelors than those married Marines with at least one non-secondary school-age child, all else held constant ($p<0.05$). Table 16 provides details regarding the base-specific distributions of geo-bachelors and school-age children when single Marines are omitted. Note, however, the pseudo R-squared in this analysis is only 0.0353 (0.028 when single Marines are included), indicating the models are not explaining as much as desired.

Table 15. Odds Ratios of Variables on the Probability of Geo-bachelorhood (Married Marines only)

VARIABLES	**Column (1)**	**Column (2)**
Num_SchoolAge	1.0079	
	(0.0210)	
Num_Secondary	1.0847*	
	(0.0480)	
SchoolAge		0.9312*
		(0.0354)
Secondary		1.1842***
		(0.0626)
Ehispanic	1.2622***	1.2649***
	(0.0366)	(0.0367)
Eblack	1.1737***	1.1772***
	(0.0437)	(0.0438)
Easian	1.0734	1.0730
	(0.0734)	(0.0733)
Albany	1.5216***	1.5266***
	(0.1990)	(0.1996)
TwentyPalms	1.5091***	1.5098***
	(0.0397)	(0.0397)
Hawii	1.0573	1.0570
	(0.0366)	(0.0366)
Edu	1.0797***	1.0791***
	(0.0161)	(0.0161)
YearsSvc	0.9246***	0.9275***
	(0.0028)	(0.0026)
X_EDU	0.9774	0.9754
	(0.1032)	(0.1029)
X_SERVICE	2.9582***	3.0162***
	(1.0159)	(1.0321)
Constant	0.3340***	0.3332***
	(0.0085)	(0.0085)
Observations	51,429	51,429

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 16. Base-Specific Summary Statistics of Married Marines

BASE	Total	Geo-bachelor	School-Age Child
Jacksonville	35,463	20.72%	26.90%
29-Palms	9,355	29.76%	23.97%
Hawaii	6,131	21.40%	30.34%
Albany	406	21.67%	49.75%

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

This thesis analyzes the impact school-age children have on the likelihood of Marines choosing to become geographic bachelors or choosing to live within the school district boundaries when assigned to locations that have a reputation for low quality public K-12 schools. Locations perceived by Marines and their families to have low quality public schools are: Jacksonville, North Carolina, Albany, Georgia, Twentynine Palms, California and MCBH (Hawaii).

Using estimates derived from logit regression models, results show the probability of becoming a geographic bachelor in the locations of interest are positively related with having school-age children. Among Marines with school-age children, the greatest increase in the probability of being a geographic bachelor is most pronounced for those Marines with secondary (high school) school-age children, compared to either middle school-aged children and/or elementary school-aged children, all else held constant. These results are not surprising; some factors are likely to be more significant at the secondary school level, so that Marines with children at this age prefer them to have the stability rather than move them around. Parents and the children themselves may desire to stay at the same secondary school until graduation in order to ensure all requirements are met on time, maintain the same level of academic expectations, provide the best opportunities for scholarships (athletic or other), or develop meaningful relationships.

When differences in geographic locations are taken into consideration, Marines assigned to Albany, Georgia are most likely to choose geographic bachelorhood compared to the other three locations, all else constant. Among all four of the locations examined, Marines of Jacksonville, North Carolina are the least likely to become geographic bachelors, all else constant. A possible explanation for the lower odds ratio output of Jacksonville Marines is the fact that this is the only location which offers Department of Defense operated schools.

Having school-age children is also positively associated with living inside the school district boundaries of the specified locations. Of all the locations, the greatest positive relationship between school-age children and living within the boundaries is revealed among Marines assigned to Jacksonville while the lowest likelihood of living within the boundary is associated with Albany.

A dramatic difference exists between Albany and the other three locations in regards to the effects of ethnicity on the likelihood of living within the school district boundaries. Albany is the only location in which Marines identified as being black are more likely to live within the boundaries than Marines identified as white, all else constant. The other three locations reveal that black Marines are less likely than white Marines to live within their school district boundaries, all else constant.

There are many limitations to this study. First, only correlative relationships are established, this analysis does not establish causality. Second, there are omitted variables which may have a great impact on the dependent variables used in analysis. Third, the locations of interest are based on a narrow survey and may not accurately reflect the perceptions of all individuals represented in the data.

B. RECOMMENDATIONS

Based on the limitations of this study, five general recommendations are provided.

1. Conduct similar analysis to this study but include locations that have less negative perceptions of K-12 public school options. Based on the 2015 school liaison survey data, some areas to consider are: Quantico, Virginia, Henderson Hall, Virginia, Camp Pendleton, California, Cherry Point, North Carolina, and Beaufort, South Carolina.

2. Perform within state comparisons among the locations of interest in order to identify if the perceptions of under-performing public K-12 schools are accurate. Within state comparisons are necessary because there is wide variation in the U.S. education system and this variation is reduced at the state-level.

3. Gather additional data relating to dependents' location. Having a full zip code for the dependents' residence would ensure the boundary variables are well defined. Using this data in geographic information system models

may provide a better analysis for the relationship between dependent residencies and school district boundaries or Marine spouse's location.

4. Implement base-wide procedures directing all personnel with at least one school-age dependent to check in and check out with the school liaison office. This would allow the liaisons to identify and keep track of the type of schooling dependents receive, whether public, private, charter, or home school. Additionally, the school liaison office should request quarterly updates from all surrounding schools to identify the number of military/DOD affiliated students enrolled.

5. Conduct Marine Corps wide surveys designed to identify all of the reasons families may choose not to co-locate. Questions should include topics such as spouse's career/job opportunities or aspirations, children's achievements/extracurricular activities, importance of education, long-term goals or expectations, and location of extended family. Questions should also offer opportunities for respondents to rank the quality of K-12 education opportunities for locations they are familiar with either through personal experience or social networks.

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APPENDIX A. LOGIT REGRESSION RESULTS FOR ALBANY

Table 17. Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		0.3607***	0.1085	-0.0780
		(0.0651)	(0.0963)	(0.1076)
Num_Elementary	0.4011***		0.2892**	0.4963***
	(0.0740)		(0.1230)	(0.1264)
Num_Middle	0.0329	-0.3381**		0.0908
	(0.1294)	(0.1453)		(0.1736)
Num_Secondary	-0.4013**	-0.7845***	-0.5225**	
	(0.1756)	(0.1852)	(0.2069)	
Ehispanic	-0.1741	-0.1804	-0.1769	-0.1776
	(0.1731)	(0.1731)	(0.1731)	(0.1729)
Eblack	0.6568***	0.6585***	0.6544***	0.6460***
	(0.1388)	(0.1387)	(0.1388)	(0.1387)
Easian	-0.1871	-0.1780	-0.1863	-0.1814
	(0.3450)	(0.3443)	(0.3451)	(0.3448)
Edu	0.2179***	0.2199***	0.2188***	0.2228***
	(0.0587)	(0.0587)	(0.0586)	(0.0584)
YearsSvc	0.1439***	0.1410***	0.1415***	0.1402***
	(0.0069)	(0.0071)	(0.0070)	(0.0070)
X_EDU	0.0332	0.0216	0.0320	0.0334
	(0.5854)	(0.5851)	(0.5854)	(0.5855)
X_SERVICE = o,	-	-	-	-
Constant	-7.4353***	-7.4318***	-7.4345***	-7.4331***
	(0.1084)	(0.1085)	(0.1083)	(0.1082)
Observations	169,216	169,216	169,216	169,216

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 18. Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		0.8531***	0.4013*	0.2162
		(0.1753)	(0.2351)	(0.2323)
Elementary	0.7092***		0.4333**	0.6105***
	(0.1377)		(0.1862)	(0.1775)
Middle	-0.0902	-0.3218*		-0.1907
	(0.1626)	(0.1673)		(0.1693)
Secondary	-0.4690**	-0.8120***	-0.6262***	
	(0.1990)	(0.2006)	(0.2129)	
Ehispanic	-0.1854	-0.1845	-0.1886	-0.1945
	(0.1730)	(0.1726)	(0.1727)	(0.1727)
Eblack	0.6598***	0.6550***	0.6528***	0.6430***
	(0.1389)	(0.1387)	(0.1387)	(0.1384)
Easian	-0.1802	-0.1756	-0.1771	-0.1708
	(0.3438)	(0.3446)	(0.3442)	(0.3435)
Edu	0.2201***	0.2235***	0.2224***	0.2282***
	(0.0584)	(0.0585)	(0.0584)	(0.0582)
YearsSvc	0.1426***	0.1338***	0.1344***	0.1325***
	(0.0074)	(0.0089)	(0.0090)	(0.0090)
X_EDU	0.0366	0.0367	0.0401	0.0350
	(0.5861)	(0.5863)	(0.5862)	(0.5866)
X_SERVICE = o,	-	-	-	-
Constant	-7.4527***	-7.4577***	-7.4588***	-7.4546***
	(0.1088)	(0.1102)	(0.1095)	(0.1095)
Observations	169,216	169,216	169,216	169,216

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 19. Intensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		1.4343***	1.1146	0.9250
		(0.0948)	(0.1038)	(0.1016)
Num_Elementary	1.4935***		1.3354**	1.6426***
	(0.1113)		(0.1633)	(0.2097)
Num_Middle	1.0334	0.7132**		1.0951
	(0.1296)	(0.1040)		(0.1916)
Num_Secondary	0.6695**	0.4563***	0.5930**	
	(0.1164)	(0.0826)	(0.1209)	
Ehispanic	0.8402	0.8349	0.8379	0.8373
	(0.1434)	(0.1425)	(0.1430)	(0.1429)
Eblack	1.9286***	1.9319***	1.9240***	1.9080***
	(0.2664)	(0.2668)	(0.2656)	(0.2634)
Easian	0.8294	0.8369	0.8300	0.8341
	(0.2837)	(0.2862)	(0.2840)	(0.2852)
Edu	1.2435***	1.2459***	1.2446***	1.2496***
	(0.0681)	(0.0683)	(0.0682)	(0.0684)
YearsSvc	1.1548***	1.1515***	1.1520***	1.1505***
	(0.0088)	(0.0090)	(0.0090)	(0.0090)
X_EDU	1.0338	1.0218	1.0325	1.0340
	(0.6094)	(0.6025)	(0.6087)	(0.6095)
X_SERVICE = o,	-	-	-	-
Constant	0.0006***	0.0006***	0.0006***	0.0006***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Observations	169,216	169,216	169,216	169,216

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 20. Extensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		2.3469***	1.4937*	1.2414
		(0.3522)	(0.3238)	(0.2660)
Elementary	2.0324***		1.5423**	1.8413***
	(0.2558)		(0.2890)	(0.3290)
Middle	0.9137	0.7248*		0.8264
	(0.1484)	(0.1214)		(0.1407)
Secondary	0.6256**	0.4440***	0.5346***	
	(0.1266)	(0.0900)	(0.1156)	
Ehispanic	0.8308	0.8316	0.8282	0.8232
	(0.1418)	(0.1419)	(0.1414)	(0.1405)
Eblack	1.9344***	1.9251***	1.9210***	1.9021***
	(0.2671)	(0.2657)	(0.2651)	(0.2624)
Easian	0.8351	0.8389	0.8377	0.8430
	(0.2854)	(0.2870)	(0.2864)	(0.2880)
Edu	1.2463***	1.2504***	1.2491***	1.2563***
	(0.0682)	(0.0684)	(0.0682)	(0.0685)
YearsSvc	1.1533***	1.1431***	1.1439***	1.1417***
	(0.0090)	(0.0099)	(0.0099)	(0.0099)
X_EDU	1.0373	1.0374	1.0410	1.0356
	(0.6115)	(0.6120)	(0.6137)	(0.6106)
X_SERVICE = o,	-	-	-	-
Constant	0.0006***	0.0006***	0.0006***	0.0006***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Observations	169,216	169,216	169,216	169,216

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

APPENDIX B. LOGIT REGRESSION RESULTS FOR JACKSONVILLE/CAMP LEJEUNE

Table 21. Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		0.3069***	-0.2170***	0.3570***
		(0.0205)	(0.0291)	(0.0370)
Num_Elementary	0.4248***		0.6445***	0.0493
	(0.0227)		(0.0372)	(0.0426)
Num_Middle	-0.2245***	-0.5446***		-0.5615***
	(0.0385)	(0.0446)		(0.0572)
Num_Secondary	0.7976***	0.4677***	1.0256***	
	(0.0527)	(0.0568)	(0.0638)	
Ehispanic	-0.3650***	-0.3646***	-0.3631***	-0.3644***
	(0.0217)	(0.0216)	(0.0216)	(0.0216)
Eblack	-0.1799***	-0.1802***	-0.1783***	-0.1773***
	(0.0243)	(0.0243)	(0.0243)	(0.0242)
Easian	-0.7925***	-0.7931***	-0.7931***	-0.7907***
	(0.0525)	(0.0523)	(0.0526)	(0.0522)
Edu	-0.1932***	-0.1930***	-0.1943***	-0.1943***
	(0.0137)	(0.0138)	(0.0137)	(0.0136)
YearsSvc	0.1641***	0.1655***	0.1665***	0.1638***
	(0.0021)	(0.0022)	(0.0022)	(0.0021)
X_EDU	-0.4199***	-0.4278***	-0.4178***	-0.4157***
	(0.0800)	(0.0803)	(0.0799)	(0.0798)
X_SERVICE = o,	0.5558**	0.5521**	0.5663**	0.5454**
	(0.2631)	(0.2630)	(0.2642)	(0.2619)
Constant	-1.9612***	-1.9585***	-1.9640***	-1.9516***
	(0.0176)	(0.0176)	(0.0176)	(0.0175)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 22. Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		0.9437***	0.7449***	1.2380***
		(0.0324)	(0.0572)	(0.0453)
Elementary	0.7054***		0.0934*	-0.2716***
	(0.0316)		(0.0564)	(0.0477)
Middle	-0.3592***	-0.6589***		-0.7241***
	(0.0485)	(0.0474)		(0.0490)
Secondary	1.0292***	0.3567***	0.4292***	
	(0.0539)	(0.0515)	(0.0649)	
Ehispanic	-0.3684***	-0.3716***	-0.3748***	-0.3704***
	(0.0217)	(0.0218)	(0.0217)	(0.0217)
Eblack	-0.1790***	-0.1816***	-0.1916***	-0.1805***
	(0.0243)	(0.0242)	(0.0243)	(0.0242)
Easian	-0.7919***	-0.7899***	-0.7909***	-0.7900***
	(0.0527)	(0.0524)	(0.0523)	(0.0524)
Edu	-0.1904***	-0.1858***	-0.1846***	-0.1865***
	(0.0137)	(0.0137)	(0.0138)	(0.0137)
YearsSvc	0.1606***	0.1516***	0.1456***	0.1514***
	(0.0021)	(0.0022)	(0.0021)	(0.0022)
X_EDU	-0.4146***	-0.4073***	-0.4106***	-0.4040***
	(0.0798)	(0.0791)	(0.0790)	(0.0789)
X_SERVICE = o,	0.5348**	0.5097*	0.4736*	0.5060*
	(0.2624)	(0.2613)	(0.2554)	(0.2613)
Constant	-1.9695***	-1.9770***	-1.9622***	-1.9759***
	(0.0176)	(0.0176)	(0.0176)	(0.0176)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 23. Intensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		1.3592***	0.8049***	1.4291***
		(0.0236)	(0.0198)	(0.0386)
Num_Elementary	1.5292***		1.9050***	1.0505
	(0.0297)		(0.0609)	(0.0343)
Num_Middle	0.7989***	0.5801***		0.5704***
	(0.0260)	(0.0220)		(0.0257)
Num_Secondary	2.2201***	1.5963***	2.7886***	
	(0.0804)	(0.0635)	(0.1286)	
Ehispanic	0.6942***	0.6944***	0.6955***	0.6946***
	(0.0147)	(0.0147)	(0.0147)	(0.0147)
Eblack	0.8354***	0.8351***	0.8367***	0.8375***
	(0.0201)	(0.0201)	(0.0202)	(0.0201)
Easian	0.4527***	0.4524***	0.4524***	0.4535***
	(0.0230)	(0.0229)	(0.0230)	(0.0229)
Edu	0.8244***	0.8245***	0.8234***	0.8234***
	(0.0099)	(0.0099)	(0.0099)	(0.0098)
YearsSvc	1.1783***	1.1799***	1.1812***	1.1779***
	(0.0021)	(0.0021)	(0.0021)	(0.0021)
X_EDU	0.6571***	0.6520***	0.6585***	0.6599***
	(0.0480)	(0.0477)	(0.0481)	(0.0481)
X_SERVICE = o,	1.7433**	1.7370**	1.7617**	1.7254**
	(0.4570)	(0.4558)	(0.4616)	(0.4518)
Constant	0.1407***	0.1411***	0.1403***	0.1421***
	(0.0023)	(0.0023)	(0.0023)	(0.0023)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 24. Extensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		2.5695***	2.1063***	3.4487***
		(0.0740)	(0.1012)	(0.1276)
Elementary	2.0246***		1.0979**	0.7622***
	(0.0559)		(0.0520)	(0.0300)
Middle	0.6982***	0.5174***		0.4848***
	(0.0288)	(0.0216)		(0.0207)
Secondary	2.7987***	1.4286***	1.5360***	
	(0.1102)	(0.0595)	(0.0796)	
Ehispanic	0.6919***	0.6897***	0.6874***	0.6905***
	(0.0147)	(0.0147)	(0.0146)	(0.0147)
Eblack	0.8361***	0.8339***	0.8257***	0.8349***
	(0.0202)	(0.0201)	(0.0200)	(0.0202)
Easian	0.4530***	0.4539***	0.4534***	0.4539***
	(0.0230)	(0.0231)	(0.0230)	(0.0230)
Edu	0.8267***	0.8304***	0.8315***	0.8299***
	(0.0099)	(0.0100)	(0.0100)	(0.0100)
YearsSvc	1.1743***	1.1637***	1.1567***	1.1634***
	(0.0021)	(0.0021)	(0.0021)	(0.0021)
X_EDU	0.6606***	0.6655***	0.6632***	0.6676***
	(0.0483)	(0.0485)	(0.0483)	(0.0486)
X_SERVICE = o,	1.7072**	1.6647*	1.6057*	1.6586*
	(0.4491)	(0.4380)	(0.4224)	(0.4361)
Constant	0.1395***	0.1385***	0.1405***	0.1386***
	(0.0023)	(0.0023)	(0.0023)	(0.0023)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

APPENDIX C. LOGIT REGRESSION RESULTS FOR TWENTYNINE PALMS

Table 25. Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		0.2407***	-0.1517***	0.0899**
		(0.0251)	(0.0395)	(0.0403)
Num_Elementary	0.3270***		0.4795***	0.2270***
	(0.0277)		(0.0493)	(0.0470)
Num_Middle	-0.1783***	-0.4222***		-0.2565***
	(0.0516)	(0.0584)		(0.0677)
Num_Secondary	0.2397***	-0.0276	0.3946***	
	(0.0542)	(0.0572)	(0.0704)	
Ehispanic	0.1874***	0.1863***	0.1889***	0.1881***
	(0.0351)	(0.0351)	(0.0351)	(0.0351)
Eblack	-0.4116***	-0.4121***	-0.4113***	-0.4078***
	(0.0517)	(0.0517)	(0.0517)	(0.0517)
Easian	-0.0801	-0.0803	-0.0806	-0.0809
	(0.0786)	(0.0785)	(0.0786)	(0.0785)
Edu	0.0475**	0.0477**	0.0471**	0.0452**
	(0.0198)	(0.0198)	(0.0198)	(0.0197)
YearsSvc	0.0923***	0.0929***	0.0935***	0.0938***
	(0.0025)	(0.0026)	(0.0026)	(0.0026)
X_EDU	-0.4619***	-0.4717***	-0.4591***	-0.4625***
	(0.1579)	(0.1584)	(0.1578)	(0.1579)
X_SERVICE = o,	-	-	-	-
Constant	-3.8020***	-3.7977***	-3.8032***	-3.8002***
	(0.0289)	(0.0289)	(0.0289)	(0.0289)
Observations	169,216	169,216	169,216	169,216

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 26. Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		0.7877***	0.5495***	0.7039***
		(0.0538)	(0.0769)	(0.0740)
Elementary	0.5804***		0.1858***	0.0885
	(0.0459)		(0.0620)	(0.0608)
Middle	-0.2661***	-0.4573***		-0.4369***
	(0.0631)	(0.0623)		(0.0641)
Secondary	0.3263***	-0.0728	0.0233	
	(0.0675)	(0.0626)	(0.0659)	
Ehispanic	0.1827***	0.1821***	0.1791***	0.1815***
	(0.0351)	(0.0351)	(0.0351)	(0.0351)
Eblack	-0.4112***	-0.4120***	-0.4192***	-0.4123***
	(0.0517)	(0.0517)	(0.0516)	(0.0516)
Easian	-0.0797	-0.0734	-0.0759	-0.0736
	(0.0786)	(0.0786)	(0.0786)	(0.0786)
Edu	0.0503**	0.0531***	0.0544***	0.0534***
	(0.0197)	(0.0197)	(0.0197)	(0.0197)
YearsSvc	0.0887***	0.0793***	0.0758***	0.0793***
	(0.0027)	(0.0031)	(0.0032)	(0.0031)
X_EDU	-0.4579***	-0.4519***	-0.4531***	-0.4515***
	(0.1585)	(0.1586)	(0.1585)	(0.1585)
X_SERVICE = o,	-	-	-	-
Constant	-3.8080***	-3.8165***	-3.8076***	-3.8165***
	(0.0289)	(0.0290)	(0.0289)	(0.0290)
Observations	169,216	169,216	169,216	169,216

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 27. Intensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		1.2721***	0.8593***	1.0941**
		(0.0312)	(0.0322)	(0.0404)
Num_Elementary	1.3868***		1.6152***	1.2548***
	(0.0376)		(0.0762)	(0.0553)
Num_Middle	0.8367***	0.6556***		0.7737***
	(0.0412)	(0.0369)		(0.0498)
Num_Secondary	1.2708***	0.9728	1.4839***	
	(0.0616)	(0.0510)	(0.0958)	
Ehispanic	1.2061***	1.2048***	1.2079***	1.2070***
	(0.0422)	(0.0421)	(0.0422)	(0.0422)
Eblack	0.6626***	0.6622***	0.6628***	0.6651***
	(0.0341)	(0.0340)	(0.0341)	(0.0342)
Easian	0.9230	0.9228	0.9225	0.9223
	(0.0727)	(0.0726)	(0.0726)	(0.0726)
Edu	1.0487**	1.0489**	1.0483**	1.0462**
	(0.0195)	(0.0195)	(0.0195)	(0.0194)
YearsSvc	1.0967***	1.0973***	1.0980***	1.0983***
	(0.0028)	(0.0029)	(0.0029)	(0.0029)
X_EDU	0.6301***	0.6239***	0.6319***	0.6297***
	(0.0998)	(0.0988)	(0.1000)	(0.0997)
X_SERVICE = o,	-	-	-	-
Constant	0.0223***	0.0224***	0.0223***	0.0224***
	(0.0007)	(0.0007)	(0.0006)	(0.0007)
Observations	169,216	169,216	169,216	169,216

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 28. Extensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		2.1983***	1.7324***	2.0217***
		(0.1032)	(0.1224)	(0.1253)
Elementary	1.7868***		1.2041***	1.0925
	(0.0759)		(0.0766)	(0.0627)
Middle	0.7663***	0.6330***		0.6460***
	(0.0465)	(0.0388)		(0.0404)
Secondary	1.3858***	0.9298	1.0235	
	(0.0812)	(0.0552)	(0.0690)	
Ehispanic	1.2005***	1.1998***	1.1961***	1.1990***
	(0.0420)	(0.0420)	(0.0418)	(0.0419)
Eblack	0.6629***	0.6623***	0.6576***	0.6621***
	(0.0341)	(0.0340)	(0.0338)	(0.0340)
Easian	0.9234	0.9292	0.9269	0.9290
	(0.0727)	(0.0732)	(0.0730)	(0.0731)
Edu	1.0516***	1.0545***	1.0559***	1.0548***
	(0.0195)	(0.0196)	(0.0196)	(0.0196)
YearsSvc	1.0928***	1.0826***	1.0787***	1.0825***
	(0.0029)	(0.0031)	(0.0031)	(0.0031)
X_EDU	0.6326***	0.6364***	0.6357***	0.6367***
	(0.1002)	(0.1008)	(0.1006)	(0.1008)
X_SERVICE = o,	-	-	-	-
Constant	0.0222***	0.0220***	0.0222***	0.0220***
	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Observations	169,216	169,216	169,216	169,216

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

APPENDIX D. LOGIT REGRESSION RESULTS FOR MARINE CORPS BASE HAWAII

Table 29. Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		0.1865***	-0.0956**	0.0456
		(0.0268)	(0.0397)	(0.0418)
Num_Elementary	0.2581***		0.3545***	0.2055***
	(0.0292)		(0.0498)	(0.0475)
Num_Middle	-0.1010*	-0.2895***		-0.1385**
	(0.0524)	(0.0604)		(0.0700)
Num_Secondary	0.1499**	-0.0581	0.2488***	
	(0.0587)	(0.0614)	(0.0750)	
Ehispanic	0.1575***	0.1566***	0.1587***	0.1584***
	(0.0412)	(0.0412)	(0.0412)	(0.0412)
Eblack	-0.2845***	-0.2849***	-0.2842***	-0.2813***
	(0.0570)	(0.0570)	(0.0571)	(0.0570)
Easian	0.5970***	0.5964***	0.5966***	0.5963***
	(0.0678)	(0.0678)	(0.0678)	(0.0679)
Edu	0.1790***	0.1793***	0.1787***	0.1772***
	(0.0193)	(0.0193)	(0.0193)	(0.0192)
YearsSvc	0.1106***	0.1110***	0.1115***	0.1118***
	(0.0026)	(0.0027)	(0.0027)	(0.0027)
X_EDU	-0.1409	-0.1489	-0.1391	-0.1410
	(0.1673)	(0.1674)	(0.1673)	(0.1672)
X_SERVICE = o,	0.2055	0.2023	0.2102	0.2079
	(0.7224)	(0.7225)	(0.7225)	(0.7224)
Constant	-4.3768***	-4.3728***	-4.3777***	-4.3760***
	(0.0320)	(0.0319)	(0.0320)	(0.0320)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 30. Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		0.7036***	0.4857***	0.6224***
		(0.0585)	(0.0828)	(0.0830)
Elementary	0.5014***		0.1608**	0.0822
	(0.0481)		(0.0652)	(0.0649)
Middle	-0.2173***	-0.3985***		-0.3797***
	(0.0641)	(0.0634)		(0.0654)
Secondary	0.2457***	-0.0811	-0.0051	
	(0.0732)	(0.0675)	(0.0702)	
Ehispanic	0.1520***	0.1511***	0.1485***	0.1503***
	(0.0412)	(0.0412)	(0.0411)	(0.0412)
Eblack	-0.2840***	-0.2853***	-0.2923***	-0.2860***
	(0.0570)	(0.0570)	(0.0569)	(0.0570)
Easian	0.5985***	0.6051***	0.6024***	0.6049***
	(0.0679)	(0.0679)	(0.0678)	(0.0678)
Edu	0.1816***	0.1845***	0.1851***	0.1849***
	(0.0192)	(0.0193)	(0.0192)	(0.0192)
YearsSvc	0.1072***	0.0981***	0.0955***	0.0981***
	(0.0028)	(0.0033)	(0.0034)	(0.0033)
X_EDU	-0.1366	-0.1273	-0.1283	-0.1277
	(0.1673)	(0.1668)	(0.1662)	(0.1668)
X_SERVICE = o,	0.1907	0.1483	0.1258	0.1492
	(0.7227)	(0.7231)	(0.7231)	(0.7231)
Constant	-4.3841***	-4.3923***	-4.3838***	-4.3924***
	(0.0320)	(0.0320)	(0.0319)	(0.0320)
Observations	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 31. Intensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
Num_SchoolAge		1.2050***	0.9088**	1.0467
		(0.0312)	(0.0340)	(0.0403)
Num_Elementary	1.2945***		1.4255***	1.2281***
	(0.0373)		(0.0687)	(0.0568)
Num_Middle	0.9039**	0.7486***		0.8707**
	(0.0442)	(0.0424)		(0.0567)
Num_Secondary	1.1618***	0.9436	1.2825***	
	(0.0598)	(0.0524)	(0.0858)	
Ehispanic	1.1706***	1.1695***	1.1720***	1.1716***
	(0.0480)	(0.0480)	(0.0481)	(0.0481)
Eblack	0.7524***	0.7521***	0.7526***	0.7548***
	(0.0423)	(0.0423)	(0.0424)	(0.0425)
Easian	1.8167***	1.8156***	1.8160***	1.8154***
	(0.1246)	(0.1244)	(0.1245)	(0.1245)
Edu	1.1961***	1.1964***	1.1957***	1.1939***
	(0.0224)	(0.0224)	(0.0223)	(0.0223)
YearsSvc	1.1169***	1.1174***	1.1180***	1.1183***
	(0.0030)	(0.0031)	(0.0031)	(0.0031)
X_EDU	0.8686	0.8616	0.8702	0.8685
	(0.1455)	(0.1444)	(0.1458)	(0.1455)
X_SERVICE = o,	1.2281	1.2243	1.2339	1.2311
	(0.8901)	(0.8873)	(0.8944)	(0.8923)
Constant	0.0126***	0.0126***	0.0126***	0.0126***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 32. Extensive Odds Ratios of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)
SchoolAge		2.0210***	1.6252***	1.8634***
		(0.1018)	(0.1200)	(0.1253)
Elementary	1.6510***		1.1745**	1.0857
	(0.0736)		(0.0772)	(0.0656)
Middle	0.8047***	0.6713***		0.6841***
	(0.0494)	(0.0419)		(0.0438)
Secondary	1.2785***	0.9221	0.9949	
	(0.0795)	(0.0579)	(0.0697)	
Ehispanic	1.1642***	1.1631***	1.1601***	1.1622***
	(0.0478)	(0.0477)	(0.0476)	(0.0477)
Eblack	0.7528***	0.7518***	0.7466***	0.7513***
	(0.0424)	(0.0423)	(0.0420)	(0.0423)
Easian	1.8194***	1.8314***	1.8265***	1.8311***
	(0.1248)	(0.1257)	(0.1253)	(0.1256)
Edu	1.1991***	1.2026***	1.2033***	1.2031***
	(0.0224)	(0.0225)	(0.0225)	(0.0225)
YearsSvc	1.1131***	1.1031***	1.1003***	1.1030***
	(0.0031)	(0.0033)	(0.0033)	(0.0033)
X_EDU	0.8724	0.8804	0.8796	0.8801
	(0.1462)	(0.1473)	(0.1471)	(0.1473)
X_SERVICE = o,	1.2100	1.1599	1.1341	1.1609
	(0.8769)	(0.8401)	(0.8212)	(0.8409)
Constant	0.0125***	0.0124***	0.0125***	0.0124***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Observations	169,346	169,346	169,346	169,346

seEform in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

APPENDIX E. PROBIT REGRESSION RESULTS

Table 33. Probit Intensive Marginal Effects of Variables on the Probability of Geo-bachelorhood

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
Num_SchoolAge	0.0872***		0.0500***	-0.0512***	0.2301***
	(0.0098)		(0.0129)	(0.0187)	(0.0173)
Num_Elementary		0.0654***		0.1167***	-0.1753***
		(0.0144)		(0.0241)	(0.0218)
Num_Middle		-0.0756***	-0.1268***		-0.3014***
		(0.0251)	(0.0289)		(0.0322)
Num_Secondary		0.3677***	0.3140***	0.4186***	
		(0.0219)	(0.0247)	(0.0307)	
EHispanic	0.0299**	0.0301**	0.0300**	0.0303**	0.0295**
	(0.0126)	(0.0126)	(0.0126)	(0.0126)	(0.0126)
EBlack	-0.0529***	-0.0534***	-0.0535***	-0.0534***	-0.0531***
	(0.0158)	(0.0158)	(0.0158)	(0.0158)	(0.0158)
EAsian	-0.1808***	-0.1794***	-0.1795***	-0.1795***	-0.1799***
	(0.0286)	(0.0286)	(0.0286)	(0.0286)	(0.0286)
Albany	0.3177***	0.3176***	0.3177***	0.3177***	0.3175***
	(0.0664)	(0.0667)	(0.0667)	(0.0667)	(0.0667)
TwentyPalms	0.2735***	0.2721***	0.2722***	0.2720***	0.2732***
	(0.0116)	(0.0117)	(0.0117)	(0.0117)	(0.0116)
Hawaii	0.2926***	0.2871***	0.2875***	0.2869***	0.2907***
	(0.0168)	(0.0168)	(0.0168)	(0.0168)	(0.0168)
Edu	0.0804***	0.0834***	0.0835***	0.0834***	0.0821***
	(0.0076)	(0.0076)	(0.0076)	(0.0076)	(0.0076)
YearsSvc	0.0194***	0.0204***	0.0204***	0.0205***	0.0197***
	(0.0013)	(0.0012)	(0.0013)	(0.0013)	(0.0013)
X_EDU	0.0070	0.0035	0.0028	0.0040	0.0030
	(0.0466)	(0.0468)	(0.0468)	(0.0468)	(0.0467)
X_SERVICE	0.1703	0.1920	0.1890	0.1946	0.1731
	(0.1722)	(0.1741)	(0.1738)	(0.1742)	(0.1725)
Constant	-1.7392***	-1.7474***	-1.7469***	-1.7474***	-1.7428***
	(0.0111)	(0.0111)	(0.0111)	(0.0111)	(0.0111)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 34. Probit Extensive Marginal Effects of Variables on the Probability of Geo-bachelorhood

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
SchoolAge	0.3516***		0.2752***	0.3511***	0.5810***
	(0.0206)		(0.0226)	(0.0322)	(0.0262)
Elementary		0.1334***		-0.1399***	-0.3119***
		(0.0218)		(0.0300)	(0.0270)
Middle		-0.1235***	-0.2064***		-0.2834***
		(0.0311)	(0.0306)		(0.0316)
Secondary		0.4904***	0.3078***	0.2294***	
		(0.0253)	(0.0272)	(0.0312)	
EHispanic	0.0271**	0.0295**	0.0282**	0.0280**	0.0294**
	(0.0126)	(0.0126)	(0.0126)	(0.0126)	(0.0126)
EBlack	-0.0551***	-0.0531***	-0.0539***	-0.0559***	-0.0528***
	(0.0158)	(0.0158)	(0.0158)	(0.0158)	(0.0158)
EAsian	-0.1787***	-0.1791***	-0.1778***	-0.1788***	-0.1781***
	(0.0286)	(0.0286)	(0.0286)	(0.0286)	(0.0286)
Albany	0.3159***	0.3189***	0.3152***	0.3170***	0.3149***
	(0.0667)	(0.0669)	(0.0669)	(0.0668)	(0.0673)
TwentyPalms	0.2728***	0.2718***	0.2716***	0.2718***	0.2717***
	(0.0117)	(0.0117)	(0.0117)	(0.0117)	(0.0117)
Hawaii	0.2901***	0.2856***	0.2849***	0.2870***	0.2853***
	(0.0169)	(0.0169)	(0.0169)	(0.0169)	(0.0169)
Edu	0.0837***	0.0845***	0.0857***	0.0860***	0.0851***
	(0.0076)	(0.0076)	(0.0076)	(0.0076)	(0.0076)
YearsSvc	0.0117***	0.0190***	0.0147***	0.0129***	0.0150***
	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)
X_EDU	0.0123	0.0044	0.0076	0.0065	0.0082
	(0.0465)	(0.0468)	(0.0468)	(0.0467)	(0.0468)
X_SERVICE	0.1430	0.1868	0.1694	0.1533	0.1673
	(0.1727)	(0.1747)	(0.1744)	(0.1738)	(0.1744)
Constant	-1.7449***	-1.7505***	-1.7526***	-1.7495***	-1.7529***
	(0.0111)	(0.0111)	(0.0111)	(0.0111)	(0.0111)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 35. Probit Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
Num_SchoolAge	0.0610***		0.1322***	0.0283	-0.0387
	(0.0223)		(0.0265)	(0.0383)	(0.0430)
Num_Elementary		0.1461***		0.1165**	0.1919***
		(0.0301)		(0.0495)	(0.0506)
Num_Middle		-0.0071	-0.1440**		0.0238
		(0.0510)	(0.0579)		(0.0689)
Num_Secondary		-0.1703**	-0.3101***	-0.2038**	
		(0.0688)	(0.0722)	(0.0811)	
Ehispanic	-0.0669	-0.0640	-0.0669	-0.0646	-0.0649
	(0.0570)	(0.0572)	(0.0572)	(0.0572)	(0.0570)
Eblack	0.2220***	0.2343***	0.2338***	0.2329***	0.2308***
	(0.0494)	(0.0494)	(0.0494)	(0.0494)	(0.0494)
Easian	-0.0608	-0.0593	-0.0598	-0.0587	-0.0580
	(0.1136)	(0.1146)	(0.1145)	(0.1147)	(0.1144)
Edu	0.0917***	0.0878***	0.0887***	0.0884***	0.0890***
	(0.0216)	(0.0217)	(0.0217)	(0.0217)	(0.0216)
YearsSvc	0.0503***	0.0533***	0.0522***	0.0523***	0.0518***
	(0.0028)	(0.0027)	(0.0028)	(0.0028)	(0.0028)
X_EDU	-0.0121	-0.0087	-0.0180	-0.0087	-0.0049
	(0.1892)	(0.1890)	(0.1887)	(0.1890)	(0.1893)
X_SERVICE = o,	-	-	-	-	-
Constant	-3.3117***	-3.3247***	-3.3229***	-3.3240***	-3.3229***
	(0.0381)	(0.0385)	(0.0385)	(0.0385)	(0.0384)
Observations	169,216	169,216	169,216	169,216	169,216

Robust standard errors in parentheses
Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 36. Probit Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Albany)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
SchoolAge	0.1994***		0.2822***	0.1108	0.0416
	(0.0609)		(0.0618)	(0.0879)	(0.0851)
Elementary		0.2458***		0.1641**	0.2324***
		(0.0514)		(0.0742)	(0.0701)
Middle		-0.0541	-0.1317**		-0.0853
		(0.0643)	(0.0663)		(0.0676)
Secondary		-0.2012**	-0.3194***	-0.2518***	
		(0.0787)	(0.0781)	(0.0841)	
Ehispanic	-0.0705	-0.0683	-0.0706	-0.0699	-0.0714
	(0.0568)	(0.0573)	(0.0571)	(0.0572)	(0.0571)
Eblack	0.2220***	0.2354***	0.2329***	0.2322***	0.2301***
	(0.0494)	(0.0495)	(0.0495)	(0.0495)	(0.0494)
Easian	-0.0589	-0.0584	-0.0595	-0.0568	-0.0572
	(0.1138)	(0.1147)	(0.1146)	(0.1147)	(0.1143)
Edu	0.0915***	0.0876***	0.0878***	0.0884***	0.0899***
	(0.0217)	(0.0217)	(0.0217)	(0.0217)	(0.0216)
YearsSvc	0.0474***	0.0530***	0.0504***	0.0503***	0.0497***
	(0.0033)	(0.0029)	(0.0033)	(0.0033)	(0.0033)
X_EDU	-0.0092	-0.0059	-0.0124	-0.0048	-0.0042
	(0.1894)	(0.1895)	(0.1890)	(0.1895)	(0.1897)
X_SERVICE = o,	-	-	-	-	-
Constant	-3.3166***	-3.3283***	-3.3266***	-3.3272***	-3.3260***
	(0.0383)	(0.0386)	(0.0387)	(0.0386)	(0.0385)
Observations	169,216	169,216	169,216	169,216	169,216

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 37. Probit Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	**Column(1)**	**Column(2)**	**Column(3)**	**Column(4)**	**Column(5)**
Num_SchoolAge	0.1578***		0.1789***	-0.1189***	0.2181***
	(0.0092)		(0.0115)	(0.0164)	(0.0185)
Num_Elementary		0.2471***		0.3680***	0.0179
		(0.0128)		(0.0211)	(0.0221)
Num_Middle		-0.1229***	-0.3077***		-0.3334***
		(0.0217)	(0.0251)		(0.0303)
Num_Secondary		0.4271***	0.2343***	0.5511***	
		(0.0253)	(0.0276)	(0.0319)	
Ehispanic	-0.1877***	-0.1878***	-0.1877***	-0.1869***	-0.1880***
	(0.0112)	(0.0112)	(0.0112)	(0.0112)	(0.0112)
Eblack	-0.0975***	-0.0959***	-0.0959***	-0.0951***	-0.0948***
	(0.0128)	(0.0129)	(0.0129)	(0.0129)	(0.0128)
Easian	-0.4083***	-0.4076***	-0.4077***	-0.4078***	-0.4073***
	(0.0258)	(0.0259)	(0.0259)	(0.0260)	(0.0259)
Edu	-0.1012***	-0.1001***	-0.1000***	-0.1006***	-0.1015***
	(0.0072)	(0.0073)	(0.0073)	(0.0073)	(0.0072)
YearsSvc	0.0953***	0.0962***	0.0969***	0.0974***	0.0961***
	(0.0012)	(0.0011)	(0.0012)	(0.0012)	(0.0012)
X_EDU	-0.1994***	-0.2010***	-0.2042***	-0.2004***	-0.1984***
	(0.0395)	(0.0397)	(0.0398)	(0.0397)	(0.0396)
X_SERVICE = o,	0.2698*	0.2943**	0.2918**	0.3012**	0.2841**
	(0.1398)	(0.1413)	(0.1414)	(0.1416)	(0.1410)
Constant	-1.1752***	-1.1857***	-1.1843***	-1.1871***	-1.1798***
	(0.0094)	(0.0095)	(0.0095)	(0.0095)	(0.0094)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 38. Probit Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Jacksonville)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
SchoolAge	0.5385***		0.5492***	0.4321***	0.6949***
	(0.0163)		(0.0186)	(0.0315)	(0.0247)
Elementary		0.4078***		0.0556*	-0.1344***
		(0.0181)		(0.0311)	(0.0262)
Middle		-0.1974***	-0.3747***		-0.4095***
		(0.0273)	(0.0271)		(0.0278)
Secondary		0.5562***	0.1735***	0.2213***	
		(0.0268)	(0.0277)	(0.0343)	
Ehispanic	-0.1921***	-0.1894***	-0.1905***	-0.1920***	-0.1899***
	(0.0112)	(0.0113)	(0.0113)	(0.0113)	(0.0113)
Eblack	-0.1013***	-0.0956***	-0.0971***	-0.1015***	-0.0967***
	(0.0128)	(0.0129)	(0.0129)	(0.0129)	(0.0128)
Easian	-0.4070***	-0.4074***	-0.4064***	-0.4073***	-0.4064***
	(0.0259)	(0.0260)	(0.0260)	(0.0259)	(0.0260)
Edu	-0.0970***	-0.0988***	-0.0969***	-0.0962***	-0.0974***
	(0.0073)	(0.0073)	(0.0073)	(0.0073)	(0.0073)
YearsSvc	0.0856***	0.0943***	0.0895***	0.0863***	0.0895***
	(0.0011)	(0.0012)	(0.0012)	(0.0011)	(0.0012)
X_EDU	-0.1937***	-0.1992***	-0.1963***	-0.1974***	-0.1952***
	(0.0394)	(0.0397)	(0.0396)	(0.0395)	(0.0395)
X_SERVICE = o,	0.2334*	0.2838**	0.2659*	0.2397*	0.2644*
	(0.1388)	(0.1414)	(0.1407)	(0.1391)	(0.1407)
Constant	-1.1835***	-1.1897***	-1.1932***	-1.1862***	-1.1928***
	(0.0095)	(0.0095)	(0.0095)	(0.0095)	(0.0095)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 39. Probit Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	**Column(1)**	**Column(2)**	**Column(3)**	**Column(4)**	**Column(5)**
Num_SchoolAge	0.0721***		0.1138***	-0.0952***	0.0657***
	(0.0107)		(0.0133)	(0.0204)	(0.0206)
Num_Elementary		0.1579***		0.2537***	0.0865***
		(0.0147)		(0.0256)	(0.0244)
Num_Middle		-0.1099***	-0.2257***		-0.1685***
		(0.0267)	(0.0304)		(0.0352)
Num_Secondary		0.1597***	0.0343	0.2576***	
		(0.0273)	(0.0294)	(0.0360)	
Ehispanic	0.0799***	0.0797***	0.0796***	0.0805***	0.0799***
	(0.0157)	(0.0157)	(0.0157)	(0.0157)	(0.0157)
Eblack	-0.1827***	-0.1804***	-0.1806***	-0.1800***	-0.1788***
	(0.0220)	(0.0221)	(0.0221)	(0.0221)	(0.0220)
Easian	-0.0471	-0.0454	-0.0461	-0.0451	-0.0461
	(0.0342)	(0.0342)	(0.0342)	(0.0343)	(0.0342)
Edu	0.0302***	0.0306***	0.0304***	0.0304***	0.0293***
	(0.0094)	(0.0094)	(0.0094)	(0.0094)	(0.0094)
YearsSvc	0.0467***	0.0467***	0.0471***	0.0475***	0.0473***
	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)
X_EDU	-0.1875***	-0.1842***	-0.1871***	-0.1835***	-0.1844***
	(0.0666)	(0.0666)	(0.0667)	(0.0665)	(0.0665)
X_SERVICE = o,	-	-	-	-	-
Constant	-2.0480***	-2.0537***	-2.0518***	-2.0546***	-2.0515***
	(0.0133)	(0.0133)	(0.0133)	(0.0133)	(0.0133)
Observations	169,216	169,216	169,216	169,216	169,216

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 40. Probit Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Twentynine Palms)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
SchoolAge	0.3100***		0.3571***	0.2448***	0.3471***
	(0.0242)		(0.0252)	(0.0372)	(0.0340)
Elementary		0.2705***		0.0805**	0.0125
		(0.0229)		(0.0330)	(0.0311)
Middle		-0.1577***	-0.2544***		-0.2516***
		(0.0328)	(0.0326)		(0.0336)
Secondary		0.2106***	-0.0043	0.0426	
		(0.0330)	(0.0321)	(0.0352)	
Ehispanic	0.0765***	0.0782***	0.0776***	0.0762***	0.0775***
	(0.0157)	(0.0157)	(0.0157)	(0.0157)	(0.0157)
Eblack	-0.1860***	-0.1805***	-0.1812***	-0.1858***	-0.1812***
	(0.0221)	(0.0221)	(0.0221)	(0.0221)	(0.0221)
Easian	-0.0441	-0.0443	-0.0430	-0.0440	-0.0430
	(0.0342)	(0.0343)	(0.0343)	(0.0343)	(0.0343)
Edu	0.0338***	0.0318***	0.0329***	0.0338***	0.0329***
	(0.0094)	(0.0094)	(0.0094)	(0.0094)	(0.0094)
YearsSvc	0.0395***	0.0452***	0.0418***	0.0396***	0.0417***
	(0.0015)	(0.0013)	(0.0014)	(0.0015)	(0.0014)
X_EDU	-0.1794***	-0.1809***	-0.1775***	-0.1789***	-0.1774***
	(0.0666)	(0.0667)	(0.0667)	(0.0666)	(0.0667)
X_SERVICE = o,	-	-	-	-	-
Constant	-2.0544***	-2.0563***	-2.0595***	-2.0545***	-2.0595***
	(0.0133)	(0.0133)	(0.0133)	(0.0133)	(0.0133)
Observations	169,216	169,216	169,216	169,216	169,216

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 41. Probit Intensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
Num_SchoolAge	0.0559***	0.0525**		0.0826***	-0.0674***
	(0.0112)	(0.0216)		(0.0139)	(0.0204)
Num_Elementary		0.0612**	0.1188***		0.1871***
		(0.0251)	(0.0152)		(0.0258)
Num_Middle		-0.1178***	-0.0709***	-0.1548***	
		(0.0362)	(0.0269)	(0.0310)	
Num_Secondary			0.1334***	0.0420	0.2031***
			(0.0295)	(0.0314)	(0.0381)
Ehispanic	0.0631***	0.0635***	0.0632***	0.0630***	0.0638***
	(0.0178)	(0.0178)	(0.0178)	(0.0178)	(0.0178)
Eblack	-0.1153***	-0.1119***	-0.1136***	-0.1137***	-0.1132***
	(0.0240)	(0.0240)	(0.0240)	(0.0240)	(0.0240)
Easian	0.2477***	0.2490***	0.2491***	0.2490***	0.2487***
	(0.0308)	(0.0308)	(0.0308)	(0.0308)	(0.0308)
Edu	0.0845***	0.0840***	0.0852***	0.0851***	0.0849***
	(0.0093)	(0.0093)	(0.0093)	(0.0093)	(0.0093)
YearsSvc	0.0546***	0.0550***	0.0544***	0.0548***	0.0551***
	(0.0014)	(0.0014)	(0.0013)	(0.0014)	(0.0014)
X_EDU	-0.0467	-0.0438	-0.0433	-0.0461	-0.0422
	(0.0698)	(0.0698)	(0.0699)	(0.0700)	(0.0699)
X_SERVICE = o,	0.1263	0.1306	0.1309	0.1301	0.1336
	(0.2875)	(0.2872)	(0.2873)	(0.2876)	(0.2871)
Constant	-2.2902***	-2.2934***	-2.2952***	-2.2937***	-2.2959***
	(0.0144)	(0.0144)	(0.0143)	(0.0143)	(0.0144)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

Table 42. Probit Extensive Marginal Effects of Variables on the Probability of Living within School District Boundaries (Hawaii)

VARIABLES	Column(1)	Column(2)	Column(3)	Column(4)	Column(5)
SchoolAge	0.2741***	0.3276***		0.3143***	0.2254***
	(0.0262)	(0.0373)		(0.0266)	(0.0390)
Elementary		-0.0130	0.2254***		0.0539
		(0.0329)	(0.0238)		(0.0341)
Middle		-0.2269***	-0.1338***	-0.2238***	
		(0.0343)	(0.0332)	(0.0331)	
Secondary			0.1943***	0.0148	0.0463
			(0.0358)	(0.0340)	(0.0367)
Ehispanic	0.0598***	0.0611***	0.0614***	0.0610***	0.0595***
	(0.0178)	(0.0178)	(0.0178)	(0.0178)	(0.0178)
Eblack	-0.1190***	-0.1143***	-0.1137***	-0.1144***	-0.1191***
	(0.0241)	(0.0240)	(0.0240)	(0.0240)	(0.0241)
Easian	0.2503***	0.2517***	0.2495***	0.2517***	0.2502***
	(0.0308)	(0.0308)	(0.0308)	(0.0308)	(0.0308)
Edu	0.0881***	0.0878***	0.0864***	0.0879***	0.0883***
	(0.0093)	(0.0093)	(0.0093)	(0.0093)	(0.0093)
YearsSvc	0.0477***	0.0496***	0.0530***	0.0496***	0.0478***
	(0.0015)	(0.0015)	(0.0014)	(0.0015)	(0.0015)
X_EDU	-0.0391	-0.0363	-0.0407	-0.0364	-0.0392
	(0.0696)	(0.0698)	(0.0700)	(0.0698)	(0.0697)
X_SERVICE = o,	0.1021	0.1133	0.1255	0.1134	0.1033
	(0.2898)	(0.2891)	(0.2881)	(0.2891)	(0.2897)
Constant	-2.2969***	-2.3025***	-2.2985***	-2.3025***	-2.2971***
	(0.0144)	(0.0144)	(0.0144)	(0.0144)	(0.0144)
Observations	169,346	169,346	169,346	169,346	169,346

Robust standard errors in parentheses

Asterisks denote levels of significance: *** p<0.01, ** p<0.05, * p<0.1

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